

UNITED STATES DEPARTMENT OF LABOR

W. N. DOAK, Secretary

BUREAU OF LABOR STATISTICS

ETHELBERT STEWART, Commissioner

**MONTHLY
LABOR REVIEW**

VOLUME 32

NUMBER 2



FEBRUARY, 1931

**UNITED STATES
GOVERNMENT PRINTING OFFICE
WASHINGTON: 1931**

For sale by the Superintendent of Documents, Washington, D. C. - - - - - Price 15 Cents Per Copy
Subscription Price per Year, United States, Canada, Mexico, \$1.50; Other Countries, \$2.25

UNITED STATES DEPARTMENT OF LABOR
BUREAU OF LABOR STATISTICS
MONTHLY
LABOR REVIEW

CERTIFICATE

This publication is issued pursuant to the provisions of the sundry civil act (41 Stats. 1430) approved March 4, 1921.



ESTABLISHED 1913

UNITED STATES
DEPARTMENT OF LABOR
BUREAU OF LABOR STATISTICS
WASHINGTON, D. C.

Spe

Une

Ind

Car

Ind

Cou

Coo

Lab

Lab

Ind

Hou

Contents

| | |
|---|-------------|
| Special articles: | Page |
| Productivity of labor in loading and discharging ship cargoes..... | 1 |
| Age limits in industry in Maryland and California..... | 30 |
| Workmen's compensation legislation of the Latin American countries..... | 39 |
| Extent of overdevelopment in the bituminous coal industry, by Ethelbert Stewart, United States Commissioner of Labor Statistics..... | 50 |
| Unemployment and its relief: | |
| Unemployment insurance system of Great Britain..... | 58 |
| Industrial employment methods during depression..... | 68 |
| Survey of unemployment relief in industry..... | 72 |
| Community planning in unemployment emergencies..... | 74 |
| Technological unemployment in the printing industry..... | 78 |
| Unemployment in foreign countries..... | 80 |
| Germany—Unemployment insurance deficit..... | 84 |
| Great Britain—Commission on unemployment insurance..... | 84 |
| New Zealand—Unemployment relief legislation..... | 85 |
| Industrial and labor conditions: | |
| China—Scientific Management Institute..... | 87 |
| Great Britain—Reorganization commission for coal industry..... | 87 |
| Sumatra—Labor conditions in 1930..... | 88 |
| Care of the aged: | |
| Old-age pension for motion-picture operators in New York City..... | 89 |
| New fraternal home for aged..... | 89 |
| Industrial accidents and hygiene: | |
| Effect of exposure of animals to vapors of ethylene oxide..... | 90 |
| Promotion of safety in the mining industry..... | 91 |
| New York—Labor union safety campaign..... | 91 |
| Court decisions relating to labor: | |
| Washington—Radio station employee not covered by workmen's compensation act..... | 93 |
| Cooperation: | |
| New insurance service for consumers' cooperative movement..... | 95 |
| Great Britain—Condition of cooperative movement, 1928 and 1929..... | 95 |
| Palestine—Jewish cooperative movement..... | 96 |
| Switzerland—New agreement between cooperative societies and trade-unions..... | 98 |
| Notes on cooperative developments..... | 98 |
| Labor organizations: | |
| Progress of International Typographical Union..... | 101 |
| Japan—Trade-unions in June, 1930..... | 101 |
| Labor turnover: | |
| Labor turnover in American factories, December, 1930..... | 104 |
| Industrial disputes: | |
| Strikes and lockouts in the United States in December, 1930..... | 111 |
| Conciliation work of the Department of Labor in December, 1930..... | 114 |
| Housing: | |
| Building permits in principal cities, December, 1930..... | 118 |

Wages and hours of labor:

| | |
|---|-----|
| Wages and hours of labor in the cane-sugar refining industry, 1930..... | 134 |
| Recent changes in wages and hours of labor..... | 140 |
| Index numbers of wages per hour, 1840 to 1929..... | 143 |
| Trend of real wages per hour, 1913 to 1929..... | 145 |
| New York—Earnings of office workers in factories, in October, 1930..... | 145 |
| Fiji Islands—Wages and labor conditions..... | 148 |

Trend of employment:

| | |
|--|-----|
| Summary for December, 1930..... | 149 |
| Employment in selected manufacturing industries in December, 1930..... | 151 |
| Employment in coal mining in December, 1930..... | 171 |
| Employment in metalliferous mining in December, 1930..... | 172 |
| Employment in quarrying and nonmetallic mining in December, 1930..... | 173 |
| Employment in crude petroleum producing in December, 1930..... | 173 |
| Employment in public utilities in December, 1930..... | 174 |
| Employment in wholesale and retail trade in December, 1930..... | 176 |
| Employment in hotels in December, 1930..... | 177 |
| Employment in canning and preserving in December, 1930..... | 178 |
| Employment in laundries in December, 1930..... | 179 |
| Employment in dyeing and cleaning in December, 1930..... | 179 |
| Indexes of employment and pay-roll totals—mining, quarrying, crude petroleum producing, public utilities, trade, hotels and canning..... | 180 |
| Employment on Class I steam railroads in the United States..... | 182 |
| Changes in employment and pay rolls in various States..... | 184 |

Wholesale and retail prices:

| | |
|---|-----|
| Retail prices of food in December, 1930..... | 191 |
| Retail prices of coal in December, 1930..... | 199 |
| Retail prices of gas in the United States..... | 202 |
| Retail prices of electricity in the United States..... | 204 |
| Index numbers of wholesale prices of farm products, foods, and other commodities, 1913 to 1930..... | 207 |
| Index numbers of wholesale prices in December and year, 1930..... | 209 |

Cost of living:

| | |
|---|-----|
| Changes in cost of living in the United States..... | 213 |
| Cost of living in the United States and in foreign countries..... | 229 |
| International middle-class living costs..... | 240 |
| New Zealand—Study of family budgets..... | 241 |

Immigration and emigration:

| | |
|---|-----|
| Statistics of immigration for November, 1930..... | 245 |
|---|-----|

Bibliography:

| | |
|---|-----|
| Five-day week, and other recent proposals for a shorter work week—A list of references, by Laura A. Thompson, Librarian, United States Department of Labor..... | 247 |
|---|-----|

Publications relating to labor:

| | |
|---------------------------------|-----|
| Official—United States..... | 265 |
| Official—Foreign countries..... | 266 |
| Unofficial..... | 268 |

This Issue in Brief

Although the loading and unloading of vessels is still in large part a hand industry, various mechanical devices have tended to increase the labor productivity of the longshoremen. Thus, in discharging raw sugar in San Francisco, the replacement of hand trucks by a belt conveyor more than doubled the productivity of labor. Similarly in New York, in discharging bananas the introduction of pocket belt conveyors increased the average number of stems handled per man per hour by nearly 50 per cent. Page 1.

The exclusion of older workers from industry, either by the establishment of definite age limits for hiring or by an unwritten but effective "tendency" to take only the younger applicants, is a fairly widespread and apparently growing practice in both Maryland and California, according to recent reports from these States. The ages at which the dead line is set, the changing age level in Maryland stores and factories, and the arguments given by employers both for and against the practice, are other features of the reports. Page 30.

The overdevelopment of bituminous coal mining can be fairly well measured by comparing the actual output with the potential output. For instance, in West Virginia in 1928, 36 per cent of the mines operating could have produced by full-time operation all the coal actually produced by all the mines. Page 50.

Sixteen of the 20 Latin American countries have enacted legislation requiring compensation to be paid workers who are injured or diseased as a result of their employment. Although there is no national workmen's compensation law in Mexico, 24 of the 28 Mexican States have either enacted special workmen's compensation laws or have included in their labor codes provisions on workmen's compensation. Eleven of the countries make specific provision for compensating occupational diseases. A summary of the most important provisions of these laws is given on page 39.

Earnings in the cane-sugar refining industry in 1930 averaged 46.1 cents per hour and \$27.06 per week, according to a study by the Bureau of Labor Statistics covering practically the entire cane-sugar refining industry in continental United States. Average earnings of males ranged from 41.3 cents per hour and \$24.74 per week for laborers to 69.4 cents per hour and \$37.13 per week for sugar boilers, the average for all occupations combined being 47.2 cents per hour and \$27.99 per week. For female packers, the average earnings were 28.9 cents per hour and \$14.68 per week and for other groups of female workers combined, 29 cents per hour and \$16.97 per week. Full-time working hours per week averaged 59.3 for males and 51.5 for females, the average for the industry as a whole being 58.7. Page 134.

Average hourly wage rates in American industry were 133 per cent higher in 1929 than in 1913, according to a study made by the Bureau of Labor Statistics. When allowance is made for the decreased purchasing power of money, it is estimated that the increase in real hourly wage rates over this period was 36.4 per cent. Pages 143 and 145.

Community planning in unemployment emergencies is the subject of a study by the Russell Sage Foundation. In organizing relief it is suggested that the best results are obtained where administration of relief is decentralized, planning is centralized, and all relief activities are coordinated. A permanent program for dealing with unemployment is also recommended. Page 74.

The President's Emergency Committee for Employment has published a guide to employers, outlining policies and practices which are useful in times of reduced operation and employment. Suggestions are made as to methods of spreading work among the largest possible number of workers, for increasing available work, procedure regarding lay-offs, and methods of assistance to persons laid off. This publication is reproduced in full on page 68.

The cost of living in the United States was 3.5 per cent lower in December, 1930, than in the preceding June, and 6.2 per cent lower than in December, 1929, according to the semiannual survey of the Bureau of Labor Statistics. Page 212.

The development of the British unemployment insurance system, the addition of relief features to the purely actuarial basis of the plan, and the social value of the system in modifying the effects of the prolonged depression are discussed in an article by K. A. H. Egerton, of the American Consulate in London. Page 58.

A radio broadcasting station employee is engaged in interstate commerce, and therefore not within the jurisdiction of the State workmen's compensation law, according to a recent decision of the Supreme Court of Washington. Page 93.

MONTHLY LABOR REVIEW

U. S. BUREAU OF LABOR STATISTICS

VOL. 32, NO. 2

WASHINGTON

FEBRUARY, 1931

Productivity of Labor in Loading and Discharging Ship Cargoes

THE operations of loading and discharging ships are customarily referred to as "stevedore" operations. Precisely defined, stevedoring is limited to the transfer of commodities from the ship to the first place of rest on the pier and to the direct transfer of the commodities from the ship to a railroad car or lighter, and vice versa. The organizations or the individuals undertaking the stevedoring operations of loading and discharging ships are called stevedore companies or stevedores, and their foremen in charge of these operations are called stevedore foremen. The men performing the actual work of loading and discharging ships are called longshoremen, although these are often segregated into groups of hold men, hatch tenders, winch men, truckers, etc., for the purpose of indicating the precise nature of the task performed.

Units of Measurement of Ship's Cargo

THERE are no data available, either in this country or abroad, pertaining to the productivity of longshoremen in loading and discharging ships' cargoes. In undertaking the survey of labor productivity in handling cargo the United States Bureau of Labor Statistics had, first, to determine the units by which to measure such productivity. The work done is commonly expressed in terms of tons handled, but the word "ton" may and does mean several different things. Thus, some commodities are carried by the ship on a weight basis of 2,000 or 2,240 pounds per ton, while other commodities are carried on a measurement basis of 40 cubic feet per ton. The short ton (2,000 pounds) is used in all our intercoastal and coastwise trade, and also in the foreign trade of the west coast for the commodities carried on a weight basis; in the Gulf and eastern ports, however, the long ton (2,240 pounds) is used. Other kinds of tons, such as the metric weight ton of 2,204.6 pounds and the metric measurement ton, are also used frequently for commodities imported from Europe and South America. The total cargo of the ship is determined by adding the tonnages of all the commodities aboard ship, irrespective of the kind of tons used for the individual commodities. This total constitutes the "revenue tonnage" of the ship.

This "revenue ton" can not be defined in units either of weight or of measurement. It varies from port to port, from line to line, and

from ship to ship, depending on the custom of the port and the nature of the cargo carried by the individual ships. For any one port, however, and particularly for any one group of ships specializing in the same trade and carrying approximately the same kind of commodities the "revenue ton" does represent a tangible unit of measurement, and is very frequently used as the only means of expressing the total cargo of the ships. All ships show on their manifests their total revenue tonnage, and quite often they also indicate in long tons the total weight of the cargo carried.

In view of the circumstances, therefore, the bureau has had to use the revenue ton as a standard of cargo measurement, but wherever the actual weight of the cargo was also available, both revenue tons and long tons are shown.

Units of Labor Time

THE next problem confronted by the Bureau of Labor Statistics was to decide upon a unit to measure the labor time of loading and discharging cargoes. It is customary in shipping and stevedoring circles to express the work of longshoremen in terms of ship-hours, hatch-hours, gang-hours, and man-hours.

By "ship-hours" is meant the time the ship remains at the pier for the purpose of loading or discharging its cargo. Ship-hours are a very important factor to the operator, for a ship in port is a liability to him and his object is to clear it as soon as possible. But the "ship-hour" gives no indication of the actual amount of labor involved in the operations of loading or discharging, as one ship may operate only one or two hatches while another may work as many as eight hatches at a time. Again, some hatches may be worked the entire time the ship remains at the pier, while others may be worked only a part of the time.

"Hatch-hours" represent the total hours worked at all hatches of the ship in loading or discharging the cargo. If, for example, hatch No. 1 worked 10 hours, hatch No. 2, 20 hours, No. 3, 5 hours, and Nos. 4 and 5, 15 hours each, the total number of hatch-hours worked by the ship would be $10 + 20 + 5 + 15 + 15$, or 65 hatch-hours in all. (Incidentally, the longest time worked at any one hatch would also indicate approximately the number of ship-hours—in the example just given, 20.) The difficulty in the case of "hatch-hours" is that some hatches on the ship are comparatively small, while others are very large. A small hatch can hardly accommodate a whole gang, while in the larger hatches two or more gangs may be working simultaneously. "Hatch-hours" can therefore be used accurately only when it is known that in no hatch was more than one gang working at any one time.

A more adequate and more frequently used unit of measuring longshore labor time is the "gang-hour." A gang is a group of longshoremen so distributed between the ship and the pier as to allow for the uninterrupted flow of cargo from the ship to the pier and vice versa. An average gang is said to consist of 1 foreman, 6 to 10 men working in the hold of the ship, 1 hatch tender, 2 winch men, and 6 to 8 truckers. Neither the size of the gang nor its composition are in any way stabilized, and wide variations are to be found not only from port to port but from ship to ship and from hatch to hatch. The

size of the gangs may vary from 12 men or less to as many as 40 or more. In the long run, however, for any one port, and particularly for any one line or group of ships, the average size of a gang remains sufficiently constant to warrant the use of "gang-hours" as a unit for the measuring of longshore labor time. The same unit is also used to indicate the dispatch with which ships are being loaded or discharged at a given port.

The most exact and at the same time the most effective means of measuring longshore time is presented by the use of "man-hours." Whether a ship works but one hatch or eight hatches, whether one or more gangs are used at a single hatch at the same time, and whether the gangs are made up of 10 men or 40 men, the results will be reflected in the total man-hours consumed in loading or discharging the vessel. Scientifically speaking, there is but one way of measuring the productivity of longshore operations, and that is in terms of cargo loaded or discharged per man per hour. Unfortunately, however, the output per man per hour does not always tell the whole story of stevedoring operations, in the sense that higher productivity per man per hour does not always signify greater dispatch and vice versa.

The clash between higher man-hour output and quicker ship dispatch causes many a difficulty between the stevedore company, which is primarily interested in output, and the shipowners, interested in getting the ship away as fast as possible. Very often one has to be sacrificed to the other. But this difficulty illustrates the fact that man-hour output alone is not adequate to describe the situation in the stevedoring industry. It is only when both total man-hours and total gang-hours are given that it is possible to draw a clear picture of the productivity of labor in cargo handling. The data on productivity presented below are therefore expressed in terms of long tons and revenue tons of cargo loaded or discharged per gang-hour as well as per man-hour.

Discharging and Loading General Cargo

TABLE 1 contains a summary of the productivity of longshore labor in discharging and loading miscellaneous or general cargo in the principal seaports of the United States. The ports covered are given in the order used in making the survey. They are: Seattle, Tacoma, Grays Harbor, Portland (Oreg.), San Francisco, Los Angeles, Cristobal (Canal Zone), Galveston, Houston, New Orleans, Mobile, Savannah, Charleston (S. C.), Norfolk and Newport News, Baltimore, Philadelphia, Boston, and New York. The cargo is divided according to whether it is in foreign trade, intercoastal trade, or coastwise trade. In the case of foreign trade it is also subdivided according to the principal trade routes, such as European, Latin American, the Orient, etc. In each case when more than one line has been used the average of all the lines is given, which is based on the total cargo handled by all the lines and the total number of gang-hours and man-hours taken to handle this cargo. Finally, in the case of New York a special group is shown under the classification of big passenger liners, which are much different from the average type of cargo carrier known as freighters.

The term "miscellaneous cargo" is used here to indicate all the various kinds of cargo handled by the individual lines. It must be

emphasized, however, that the types of miscellaneous cargo handled in the different ports are extremely different. The miscellaneous cargo handled in New York is of an entirely different type from that handled in New Orleans or in San Francisco. This is true whether it belongs to the foreign trade, the intercoastal trade, or the coastwise trade. These variations in the nature of the cargo handled are so great that the differences in the productivity of longshore labor in handling miscellaneous cargoes in the different ports shown in Table 1 must be related to the differences in the cargo, rather than to any other cause, such as methods of handling or the equipment used.

In discharging foreign cargo the average productivity per man per hour is shown to vary from 0.57 long ton for the big passenger liners in New York to 1.85 long tons in the oriental trade of Portland, Oreg. In the intercoastal trade the productivity per man per hour varies from 0.47 long ton in Charleston to 1.18 long tons in Mobile; and in the coastwise trade from 0.46 long ton in Charleston, Galveston, and New Orleans, to 1.38 long tons in Los Angeles.

In loading foreign-trade cargo the productivity per man per hour varies from 0.50 long ton for Charleston, S. C., to 1.45 long tons for Mobile. In the intercoastal trade the variations in loading are from 0.48 long ton per man per hour in Boston to 1.14 long tons in Portland, Oreg. In the coastwise trade the loading productivity per man per hour varies from 0.62 long ton in Charleston to 1.35 long tons in Seattle and Galveston.

TABLE 1.—PRODUCTIVITY OF LABOR IN HANDLING GENERAL CARGO

[For Seattle, Tacoma, Portland, San Francisco, Los Angeles, and Cristobal (Canal Zone) the data are for 1926; for Galveston, Houston, Port Arthur, New Orleans, Mobile, Savannah, Charleston, Norfolk and Newport News, Baltimore, and Philadelphia, for 1927; and for Boston and New York for 1928]

Seattle

| Discharging cargo | | | | | Loading cargo | | | | |
|------------------------------|----------------------|--------------|---------------------|--------------|------------------------------|----------------------|--------------|---------------------|--------------|
| Trade route, and line number | Output per gang-hour | | Output per man-hour | | Trade route, and line number | Output per gang-hour | | Output per man-hour | |
| | Long tons | Revenue tons | Long tons | Revenue tons | | Long tons | Revenue tons | Long tons | Revenue tons |
| <i>Foreign trade</i> | | | | | <i>Foreign trade</i> | | | | |
| Orient: | | | | | Orient: | | | | |
| Line No. 1, 12 ships | 22.5 | 53.6 | 1.02 | 2.44 | Line No. 1, 14 ships | 26.5 | 36.6 | 1.28 | 1.76 |
| Line No. 2, 16 ships | 25.3 | 44.4 | .94 | 1.65 | Line No. 2, 29 ships | (1) | 26.8 | (1) | 1.17 |
| Line No. 3, 28 ships | (1) | 26.2 | (1) | .85 | | | | | |
| Average | 24.2 | 35.8 | 1.07 | 1.26 | Average | 26.5 | 29.5 | 1.28 | 1.32 |
| <i>Intercoastal trade</i> | | | | | <i>Intercoastal trade</i> | | | | |
| Line No. 1, 22 ships | 21.9 | 24.5 | 1.32 | 1.48 | Line No. 1, 33 ships | 20.0 | 22.4 | 1.00 | 1.12 |
| Line No. 2, 8 ships | 12.4 | 13.9 | .81 | .90 | Line No. 2, 27 ships | 17.9 | 20.0 | .88 | .98 |
| Line No. 3, 30 ships | 17.9 | 20.0 | .79 | .89 | | | | | |
| Line No. 4, 29 ships | 14.2 | 15.9 | .76 | .85 | | | | | |
| Line No. 5, 21 ships | 10.9 | 12.3 | .64 | .72 | | | | | |
| Average | 15.7 | 17.6 | .83 | .93 | Average | 18.9 | 21.2 | .94 | 1.05 |
| <i>Coastwise trade</i> | | | | | <i>Coastwise trade</i> | | | | |
| Line No. 1, 149 ships | (1) | (1) | .92 | 1.03 | Line No. 1, 109 ships | (1) | (1) | 1.35 | 1.51 |

¹ Not available.² Average for 2 lines only.³ Short tons.⁴ Average for 1 line only.

TABLE 1.—PRODUCTIVITY OF LABOR IN HANDLING GENERAL CARGO—Continued

Tacoma

| Discharging cargo | | | | | Loading cargo | | | | |
|------------------------------|----------------------|-------------------|---------------------|-------------------|------------------------------|----------------------|-------------------|---------------------|-------------------|
| Trade route, and line number | Output per gang-hour | | Output per man-hour | | Trade route, and line number | Output per gang-hour | | Output per man-hour | |
| | Long tons | Revenue tons | Long tons | Revenue tons | | Long tons | Revenue tons | Long tons | Revenue tons |
| <i>Intercoastal trade</i> | | | | | <i>Intercoastal trade</i> | | | | |
| Line No. 1, 12 ships----- | 13.9 | ³ 15.6 | 0.77 | ³ 0.86 | Line No. 1, 18 ships----- | 16.6 | ³ 18.6 | 0.87 | ³ 0.97 |

Portland, Oreg.

| Foreign trade | | | | | Foreign trade | | | | |
|----------------------------|------|-------------------|------|-------------------|----------------------------|------|-------------------|------|-------------------|
| Europe: | | | | | Europe: | | | | |
| Line No. 1, 7 ships..... | 25.9 | 29.0 | 1.61 | 1.80 | Line No. 1, 7 ships.... | 15.8 | 17.7 | 0.82 | 0.92 |
| Line No. 2, 6 ships..... | 13.9 | 15.6 | .87 | .97 | | | | | |
| Average..... | 20.6 | 22.8 | 1.23 | 1.43 | | | | | |
| Orient: | | | | | | | | | |
| Line No. 1, 15 ships.. | 24.4 | 27.3 | 1.85 | 2.07 | | | | | |
| Intercoastal trade | | | | | Intercoastal trade | | | | |
| Line No. 1, 73 ships..... | 24.3 | ³ 27.3 | 1.08 | ³ 1.21 | Line No. 1, 36 ships..... | 23.5 | ³ 26.3 | 1.19 | ³ 1.33 |
| Line No. 2, 37 ships..... | 17.0 | ³ 19.1 | 1.00 | ³ 1.12 | Line No. 2, 61 ships..... | 23.1 | ³ 25.8 | 1.04 | ³ 1.17 |
| Average..... | 22.3 | ³ 25.0 | 1.06 | ³ 1.19 | Average..... | 23.4 | ³ 26.2 | 1.14 | ³ 1.28 |
| Coastwise trade | | | | | Coastwise trade | | | | |
| Line No. 1, 103 ships..... | (1) | (1) | .98 | ³ 1.10 | Line No. 1, 118 ships..... | (1) | (1) | 1.13 | ³ 1.27 |

San Francisco

| Foreign trade | | | | | Foreign trade | | | | |
|---------------------------|------|------|------|------|---------------------------|------|------|------|------|
| Europe: | | | | | Europe: | | | | |
| Line No. 1, 10 ships.... | (1) | 21.8 | (1) | 1.57 | Line No. 1, 11 ships.. | 28.3 | 34.2 | 1.48 | 1.79 |
| | | | | | Line No. 2, 22 ships.. | 21.0 | 28.4 | 1.07 | 1.44 |
| | | | | | Average..... | 22.9 | 29.9 | 1.17 | 1.53 |
| Orient: | | | | | Orient: | | | | |
| Line No. 1, 13 ships.... | 26.8 | 30.0 | 2.08 | 2.32 | Line No. 1, 61 ships.. | (1) | 36.8 | (1) | 2.17 |
| Line No. 2, 9 ships.... | (1) | 28.1 | (1) | 1.56 | Line No. 2, 17 ships.. | 21.2 | 29.9 | 1.20 | 1.70 |
| Line No. 3, 26 ships.... | 18.6 | 28.1 | 1.03 | 1.56 | Line No. 3, 13 ships.. | (1) | 28.3 | (1) | 1.57 |
| | | | | | Line No. 4, 26 ships.. | 16.9 | 26.5 | .94 | 1.47 |
| Average..... | 19.5 | 28.3 | 1.12 | 1.62 | Average..... | 17.7 | 31.4 | 1.99 | 1.79 |
| Latin America: | | | | | Latin America: | | | | |
| Line No. 1, 33 ships.. | (1) | 25.6 | (1) | 1.62 | Line No. 1, 8 ships.. | (1) | 24.7 | (1) | 1.48 |
| Line No. 2, 12 ships.. | 21.1 | 23.7 | 1.10 | 1.23 | Line No. 2, 34 ships.. | (1) | 22.3 | (1) | 1.41 |
| Average..... | 21.1 | 24.7 | 1.10 | 1.41 | Average..... | (1) | 22.4 | (1) | 1.42 |
| Intercoastal trade | | | | | Intercoastal trade | | | | |
| Line No. 1, 14 ships.... | 17.0 | 19.1 | 1.08 | 1.21 | Line No. 1, 21 ships.... | 19.2 | 21.5 | 1.12 | 1.25 |
| Line No. 2, 41 ships.... | 15.1 | 16.9 | .98 | 1.09 | Line No. 2, 45 ships.... | 20.3 | 22.7 | 1.08 | 1.21 |
| Line No. 3, 48 ships.... | 16.2 | 18.1 | .90 | 1.01 | Line No. 3, 71 ships.... | 18.5 | 20.7 | 1.03 | 1.15 |
| Line No. 4, 21 ships.... | 16.1 | 17.9 | .89 | .99 | Line No. 4, 19 ships.... | 15.4 | 17.3 | .86 | .97 |
| Line No. 5, 71 ships.... | 13.2 | 14.8 | .74 | .83 | | | | | |
| Line No. 6, 21 ships.... | 11.6 | 13.0 | .64 | .72 | | | | | |
| Average..... | 14.4 | 16.1 | .83 | .93 | Average..... | 18.7 | 20.9 | 1.03 | 1.15 |
| Coastwise trade | | | | | Coastwise trade | | | | |
| Line No. 1, 238 ships.... | (1) | (1) | 1.21 | 1.35 | Line No. 1, 243 ships.... | (1) | (1) | 1.01 | 1.13 |

¹ Not available.² Average for 2 lines only³ Short tons.⁴ Average for 1 line only.

TABLE 1.—PRODUCTIVITY OF LABOR IN HANDLING GENERAL CARGO—Continued
Los Angeles

| Discharging cargo | | | | | Loading cargo | | | | |
|------------------------------|----------------------|-------------------|---------------------|-------------------|------------------------------|----------------------|-------------------|---------------------|-------------------|
| Trade route, and line number | Output per gang-hour | | Output per man-hour | | Trade route, and line number | Output per gang-hour | | Output per man-hour | |
| | Long tons | Revenue tons | Long tons | Revenue tons | | Long tons | Revenue tons | Long tons | Revenue tons |
| <i>Foreign trade</i> | | | | | <i>Foreign trade</i> | | | | |
| Europe: | | | | | Europe: | | | | |
| Line No. 1, 7 ships.... | 12.9 | 14.4 | 1.08 | 1.20 | Line No. 1, 12 ships.. | 21.1 | 28.4 | 1.11 | 1.50 |
| Line No. 2, 13 ships.. | 17.0 | 19.0 | .90 | 1.01 | Line No. 2, 18 ships.. | 14.7 | 23.8 | .82 | 1.32 |
| Line No. 3, 29 ships.. | 14.0 | 16.4 | .78 | .91 | Line No. 3, 28 ships.. | 14.0 | 17.0 | .78 | .94 |
| Line No. 4, 11 ships.. | 9.8 | 11.9 | .51 | .62 | | | | | |
| Average..... | 13.6 | 15.7 | .81 | .93 | Average..... | 15.5 | 20.8 | .85 | 1.14 |
| South America: | | | | | Latin America: | | | | |
| Line No. 1, 12 ships.. | 28.2 | 31.6 | 1.51 | 1.69 | Line No. 1, 13 ships.. | 11.1 | 12.4 | .85 | .95 |
| Line No. 2, 9 ships.. | 28.5 | 31.9 | 1.19 | 1.33 | | | | | |
| Average..... | 28.3 | 31.7 | 1.38 | 1.54 | | | | | |
| Central America: | | | | | Orient: | | | | |
| Line No. 1, 18 ships.. | 9.0 | 10.0 | .65 | .73 | Line No. 1, 22 ships.. | 18.8 | 35.6 | .94 | 1.78 |
| Orient: | | | | | Line No. 2, 11 ships.. | 21.8 | 30.6 | 1.14 | 1.61 |
| Line No. 1, 22 ships.. | 13.0 | 16.8 | .63 | .82 | Line No. 3, 15 ships.. | 19.2 | 24.4 | 1.01 | 1.29 |
| | | | | | Average..... | 19.8 | 31.1 | 1.02 | 1.60 |
| <i>Intercoastal trade</i> | | | | | <i>Intercoastal trade</i> | | | | |
| Line No. 1, 32 ships..... | 24.2 | ³ 27.1 | 1.37 | ³ 1.53 | Line No. 1, 59 ships..... | 21.1 | ³ 23.7 | 1.03 | ³ 1.16 |
| Line No. 2, 38 ships..... | 11.5 | ³ 12.9 | .96 | ³ 1.07 | Line No. 2, 74 ships..... | 17.6 | ³ 19.7 | .92 | ³ 1.03 |
| Line No. 3, 61 ships..... | 17.1 | ³ 19.2 | .96 | ³ 1.07 | | | | | |
| Line No. 4, 75 ships..... | 14.1 | ³ 15.7 | .83 | ³ .93 | | | | | |
| Line No. 5, 19 ships..... | 10.4 | ³ 11.6 | .82 | ³ .91 | | | | | |
| Average..... | 14.9 | ³ 16.7 | .92 | ³ 1.03 | Average..... | 19.5 | ³ 21.9 | .99 | ³ 1.11 |
| <i>Coastwise trade</i> | | | | | <i>Coastwise trade</i> | | | | |
| Line No. 1, 250 ships..... | (1) | (1) | 1.38 | ³ 1.54 | Line No. 1, 204 ships..... | (1) | (1) | 1.24 | ³ 1.39 |

Cristobal (Canal Zone)

| | | | | | | | | | |
|---------------------------|-----|------|-----|------|---------------------------|-----|------|-----|------|
| <i>Foreign trade</i> | | | | | <i>Foreign trade</i> | | | | |
| Europe: | | | | | Europe: | | | | |
| Line No. 1, 11 ships.... | (1) | 19.9 | (1) | 0.54 | Line No. 1, 15 ships.... | (1) | 11.5 | (1) | 0.39 |
| Line No. 2, 17 ships.... | (1) | 17.7 | (1) | .46 | | | | | |
| Line No. 3, 17 ships.... | (1) | 14.8 | (1) | .42 | | | | | |
| Line No. 4, 17 ships.... | (1) | 11.9 | (1) | .30 | | | | | |
| Average..... | (1) | 15.9 | (1) | .42 | | | | | |
| Latin America: | | | | | Latin America: | | | | |
| Line No. 1, 15 ships.... | (1) | 27.5 | (1) | .68 | Line No. 1, 13 ships.... | (1) | 12.9 | (1) | .47 |
| Line No. 2, 6 ships.... | (1) | 17.8 | (1) | .46 | Line No. 2, 27 ships.... | (1) | 12.2 | (1) | .41 |
| Line No. 3, 13 ships.... | (1) | 16.4 | (1) | .34 | | | | | |
| Average..... | (1) | 23.0 | (1) | .55 | Average..... | (1) | 12.4 | (1) | .43 |
| <i>United States</i> | | | | | <i>United States</i> | | | | |
| Line No. 1, 27 ships..... | (1) | 18.7 | (1) | .42 | Line No. 1, 26 ships..... | (1) | 19.9 | (1) | .57 |

¹ Not available.³ Short tons.

TABLE 1.—PRODUCTIVITY OF LABOR IN HANDLING GENERAL CARGO—Continued

Galveston

| Discharging cargo | | | | | Loading cargo | | | | |
|------------------------------|----------------------|--------------|---------------------|-------------------|------------------------------|----------------------|--------------|---------------------|-------------------|
| Trade route, and line number | Output per gang-hour | | Output per man-hour | | Trade route, and line number | Output per gang-hour | | Output per man-hour | |
| | Long tons | Revenue tons | Long tons | Revenue tons | | Long tons | Revenue tons | Long tons | Revenue tons |
| <i>Foreign trade</i> | | | | | <i>Foreign trade</i> | | | | |
| Europe: | | | | | Europe: | | | | |
| Line No. 1, 15 ships | 20.7 | 20.7 | 1.29 | 1.29 | Line No. 1, 12 ships | 24.3 | 24.3 | 1.28 | 1.28 |
| | | | | | Line No. 2, 20 ships | 20.0 | 20.0 | 1.25 | 1.25 |
| | | | | | Line No. 3, 10 ships | 19.9 | 19.9 | 1.24 | 1.24 |
| | | | | | Line No. 4, 8 ships | 24.3 | 24.3 | 1.23 | 1.23 |
| | | | | | Average | 21.7 | 21.7 | 1.25 | 1.25 |
| <i>Coastwise trade</i> | | | | | <i>Coastwise trade</i> | | | | |
| Line No. 1, 122 ships | (1) | (1) | .46 | ³ 1.51 | Line No. 1, 121 ships | (1) | (1) | 1.35 | ³ 1.51 |

Houston

| | | | | | | | | | |
|---------------------------|------|-------------------|------|-------------------|------------------------|------|------|------|------------------|
| <i>Foreign trade</i> | | | | | <i>Foreign trade</i> | | | | |
| Europe: | | | | | Europe: | | | | |
| Line No. 1, 24 ships | 20.6 | 20.6 | 1.14 | 1.14 | Line No. 1, 9 ships | 25.5 | 25.5 | 1.32 | 1.32 |
| Line No. 2, 7 ships | 20.3 | 20.3 | 1.13 | 1.13 | Line No. 2, 24 ships | 23.0 | 23.0 | 1.28 | 1.28 |
| Line No. 3, 18 ships | 10.9 | 10.9 | .94 | .94 | Line No. 3, 25 ships | 22.9 | 22.9 | 1.28 | 1.28 |
| | | | | | Line No. 4, 9 ships | 21.7 | 21.7 | 1.26 | 1.26 |
| | | | | | Line No. 5, 7 ships | 20.5 | 20.5 | 1.14 | 1.14 |
| | | | | | Line No. 6, 11 ships | 15.9 | 15.9 | .88 | .88 |
| Average | 14.1 | 14.1 | 1.03 | 1.03 | Average | 22.5 | 22.5 | 1.24 | 1.24 |
| <i>Intercoastal trade</i> | | | | | <i>Coastwise trade</i> | | | | |
| Line No. 1, 20 ships | 19.1 | ³ 21.4 | .92 | ³ 1.03 | Line No. 1, 34 ships | (1) | (1) | .88 | ³ .98 |
| <i>Coastwise trade</i> | | | | | | | | | |
| Line No. 1, 34 ships | (1) | (1) | .54 | ³ .60 | | | | | |

Port Arthur

| | | | | | | | | | |
|------------------------------|--|--|--|--|------------------------------|------|------|------|------|
| <i>Foreign trade</i> | | | | | <i>Foreign trade</i> | | | | |
| Europe: Line No. 1, 22 ships | | | | | Europe: Line No. 1, 22 ships | | | | |
| | | | | | | 19.0 | 19.0 | 0.75 | 0.75 |

New Orleans

| | | | | | | | | | |
|----------------------|------|------|------|------|----------------------|------|------|------|------|
| <i>Foreign trade</i> | | | | | <i>Foreign trade</i> | | | | |
| Europe: | | | | | Europe: | | | | |
| Line No. 1, 12 ships | 25.5 | 25.5 | 1.50 | 1.50 | Line No. 1, 38 ships | 18.4 | 18.4 | 1.08 | 1.08 |
| Line No. 2, 29 ships | 27.9 | 27.9 | 1.47 | 1.47 | Line No. 2, 36 ships | 17.6 | 17.6 | 1.03 | 1.03 |
| Line No. 3, 16 ships | 22.0 | 22.0 | 1.16 | 1.16 | Line No. 3, 12 ships | 19.2 | 19.2 | .96 | .96 |
| Line No. 4, 23 ships | 19.4 | 19.4 | 1.08 | 1.08 | Line No. 4, 23 ships | 14.8 | 14.8 | .87 | .87 |
| Line No. 5, 15 ships | 19.5 | 19.5 | 1.02 | 1.02 | Line No. 5, 20 ships | 15.4 | 15.4 | .85 | .85 |
| Line No. 6, 14 ships | 14.8 | 14.8 | .77 | .77 | Line No. 6, 20 ships | 14.1 | 14.1 | .83 | .83 |
| | | | | | Line No. 7, 27 ships | 13.0 | 13.0 | .77 | .77 |
| Average | 21.2 | 21.2 | 1.15 | 1.15 | Average | 16.5 | 16.5 | .95 | .95 |

¹ Not available.³ Short tons.

TABLE 1.—PRODUCTIVITY OF LABOR IN HANDLING GENERAL CARGO—Continued
New Orleans—Continued

| Discharging cargo | | | | | Loading cargo | | | | |
|------------------------------|----------------------|-------------------|---------------------|------------------|------------------------------|----------------------|-------------------|---------------------|------------------|
| Trade route, and line number | Output per gang-hour | | Output per man-hour | | Trade route, and line number | Output per gang-hour | | Output per man-hour | |
| | Long tons | Revenue tons | Long tons | Revenue tons | | Long tons | Revenue tons | Long tons | Revenue tons |
| <i>Foreign trade—Cont.</i> | | | | | <i>Foreign trade—Cont.</i> | | | | |
| <i>Latin America:</i> | | | | | <i>Latin America:</i> | | | | |
| Line No. 1, 14 ships .. | 19.9 | 19.9 | 1.05 | 1.05 | Line No. 1, 45 ships--- | 16.4 | 16.4 | 0.97 | 0.97 |
| | | | | | Line No. 2, 26 ships--- | 17.0 | 17.0 | .93 | .93 |
| | | | | | Line No. 3, 39 ships--- | 14.5 | 14.5 | .85 | .85 |
| | | | | | Average----- | 15.9 | 15.9 | .92 | .92 |
| <i>Orient:</i> | | | | | <i>Orient:</i> | | | | |
| Line No. 1, 14 ships .. | 33.8 | 33.8 | 1.78 | 1.78 | Line No. 1, 15 ships--- | 17.4 | 17.8 | 1.03 | 1.05 |
| <i>Intercoastal trade</i> | | | | | <i>Intercoastal trade</i> | | | | |
| Line No. 1, 22 ships----- | 19.7 | ³ 22.1 | .73 | ³ .82 | Line No. 1, 15 ships--- | 14.6 | ³ 16.4 | .86 | ³ .96 |
| | | | | | Line No. 2, 25 ships--- | 15.2 | ³ 17.0 | .79 | ³ .89 |
| | | | | | Line No. 3, 22 ships--- | 13.7 | ³ 15.4 | .72 | ³ .81 |
| | | | | | Average----- | 14.1 | ³ 15.8 | .76 | ³ .85 |
| <i>Coastwise trade</i> | | | | | <i>Coastwise trade</i> | | | | |
| Line No. 1, 107 ships----- | (1) | (1) | .46 | ³ .52 | Line No. 1, 108 ships-- | (1) | (1) | .80 | ³ .89 |

Mobile

| | | | | | | | | | |
|---------------------------|------|-------------------|------|-------------------|---------------------------|------|-------------------|------|-------------------|
| <i>Foreign trade</i> | | | | | <i>Foreign trade</i> | | | | |
| <i>Europe:</i> | | | | | <i>Europe:</i> | | | | |
| Line No. 1, 18 ships .. | 16.7 | 16.7 | 1.02 | 1.02 | Line No. 1, 17 ships--- | 16.9 | 16.9 | 1.02 | 1.02 |
| | | | | | Line No. 2, 9 ships--- | 15.4 | 15.4 | .95 | .95 |
| | | | | | Line No. 3, 31 ships--- | 14.2 | 14.2 | .90 | .90 |
| | | | | | Average----- | 15.0 | 15.0 | .94 | .94 |
| <i>Latin America:</i> | | | | | <i>Latin America:</i> | | | | |
| | | | | | Line No. 1, 15 ships--- | 17.9 | 17.9 | 1.08 | 1.08 |
| | | | | | Line No. 2, 26 ships--- | 17.8 | 17.8 | .99 | .99 |
| | | | | | Line No. 3, 12 ships--- | 13.5 | 13.5 | .77 | .77 |
| | | | | | Average----- | 15.4 | 15.4 | .88 | .88 |
| <i>Orient:</i> | | | | | <i>Orient:</i> | | | | |
| | | | | | Line No. 1, 7 ships--- | 25.0 | 25.0 | 1.45 | 1.45 |
| <i>Intercoastal trade</i> | | | | | <i>Intercoastal trade</i> | | | | |
| Line No. 1, 13 ships----- | 20.0 | ³ 22.4 | 1.18 | ³ 1.32 | Line No. 1, 5 ships----- | 18.7 | ³ 20.9 | 1.10 | ³ 1.23 |
| | | | | | Line No. 2, 25 ships----- | 16.6 | ³ 18.6 | .98 | ³ 1.10 |
| | | | | | Line No. 3, 29 ships----- | 15.7 | ³ 17.6 | .92 | ³ 1.03 |
| | | | | | Line No. 4, 14 ships----- | 15.3 | ³ 17.2 | .90 | ³ 1.01 |
| | | | | | Average----- | 16.2 | ³ 18.1 | .95 | ³ 1.07 |

¹ Not available.³ Short tons.

TABLE 1.—PRODUCTIVITY OF LABOR IN HANDLING GENERAL CARGO—Continued
Savannah

| Discharging cargo | | | | | Loading cargo | | | | |
|------------------------------|----------------------|--------------|---------------------|--------------|------------------------------|----------------------|--------------|---------------------|--------------|
| Trade route, and line number | Output per gang-hour | | Output per man-hour | | Trade route, and line number | Output per gang-hour | | Output per man-hour | |
| | Long tons | Revenue tons | Long tons | Revenue tons | | Long tons | Revenue tons | Long tons | Revenue tons |
| <i>Foreign trade</i> | | | | | <i>Foreign trade</i> | | | | |
| Europe: | | | | | Europe: | | | | |
| Line No. 1, 15 ships... | 20.9 | 20.9 | 0.78 | 0.78 | Line No. 1, 23 ships... | 17.9 | 17.9 | 0.85 | 0.85 |
| | | | | | Line No. 2, 11 ships... | 17.4 | 17.4 | .80 | .80 |
| | | | | | Line No. 3, 15 ships... | 14.3 | 14.3 | .67 | .67 |
| | | | | | Average..... | 16.1 | 16.1 | .75 | .75 |
| | | | | | Orient: | | | | |
| | | | | | Line No. 1, 13 ships... | 23.7 | 23.7 | 1.15 | 1.15 |
| <i>Coastwise trade</i> | | | | | <i>Coastwise trade</i> | | | | |
| Line No. 1, 229 ships..... | (1) | (1) | .73 | 3.82 | Line No. 1, 228 ships..... | (1) | (1) | 1.43 | 3.60 |
| Line No. 2, 212 ships..... | (1) | (1) | .67 | 3.75 | Line No. 2, 211 ships..... | (1) | (1) | .86 | 3.96 |
| Average..... | (1) | (1) | .71 | 3.80 | Average..... | (1) | (1) | 1.25 | 3.40 |

Charleston

| | | | | | | | | | |
|----------------------------|------|--------|------|------|----------------------------|------|------|------|------|
| <i>Foreign trade</i> | | | | | <i>Foreign trade</i> | | | | |
| Europe: | | | | | Europe: | | | | |
| Line No. 1, 11 ships... | 23.2 | 23.2 | 0.66 | 0.66 | Line No. 1, 9 ships... | 11.6 | 11.6 | 0.50 | 0.50 |
| <i>Intercoastal trade</i> | | | | | Orient: | | | | |
| Line No. 1, 20 ships..... | 15.5 | 3.17.4 | .47 | 3.53 | Line No. 1, 11 ships... | 19.4 | 19.4 | .74 | .74 |
| <i>Coastwise trade</i> | | | | | <i>Coastwise trade</i> | | | | |
| Line No. 1, 216 ships..... | (1) | (1) | .46 | 3.52 | Line No. 1, 216 ships..... | (1) | (1) | .62 | 3.69 |

Norfolk and Newport News

| | | | | | | | | | |
|----------------------------------|------|------|------|------|----------------------------------|------|------|------|------|
| <i>Foreign trade</i> | | | | | <i>Foreign trade</i> | | | | |
| Europe—Norfolk: | | | | | Europe—Norfolk: | | | | |
| Line No. 1, 8 ships.... | 26.9 | 26.9 | 1.20 | 1.20 | Line No. 1, 23 ships... | 26.7 | 26.7 | 1.19 | 1.19 |
| | | | | | Line No. 2, 10 ships... | 24.7 | 24.7 | 1.10 | 1.10 |
| | | | | | Line No. 3, 18 ships... | 20.3 | 20.3 | .90 | .90 |
| | | | | | Line No. 4, 7 ships... | 16.4 | 16.4 | .79 | .79 |
| | | | | | Line No. 5, 8 ships... | 16.2 | 16.2 | .74 | .74 |
| | | | | | Average..... | 22.3 | 22.3 | 1.11 | 1.11 |
| | | | | | Europe—Newport News: | | | | |
| | | | | | Line No. 1, 22 ships... | 23.0 | 23.0 | .92 | .92 |
| | | | | | Line No. 2, 7 ships... | 16.7 | 16.7 | .72 | .72 |
| | | | | | Average..... | 22.1 | 22.1 | .90 | .90 |
| Europe—Norfolk and Newport News: | | | | | Europe—Norfolk and Newport News: | | | | |
| Line No. 1, 10 ships... | 31.5 | 32.3 | 1.34 | 1.37 | Line No. 1, 17 ships... | 25.5 | 25.5 | 1.13 | 1.13 |
| | | | | | Line No. 2, 18 ships... | 23.1 | 23.1 | 1.04 | 1.04 |
| | | | | | Average..... | 24.3 | 24.3 | 1.09 | 1.09 |

¹ Not available.² Short tons.

TABLE 1.—PRODUCTIVITY OF LABOR IN HANDLING GENERAL CARGO—Continued
Norfolk and Newport News—Continued

| Discharging cargo | | | | | Loading cargo | | | | |
|--|----------------------|--------------|---------------------|--------------|-------------------------------------|----------------------|--------------|---------------------|--------------|
| Trade route, and line number | Output per gang-hour | | Output per man-hour | | Trade route, and line number | Output per gang-hour | | Output per man-hour | |
| | Long tons | Revenue tons | Long tons | Revenue tons | | Long tons | Revenue tons | Long tons | Revenue tons |
| <i>Foreign trade—Contd.</i> | | | | | <i>Foreign trade—Contd.</i> | | | | |
| Latin America—Norfolk: Line No. 1, 9 ships..... | 21.4 | 21.4 | 0.83 | 0.83 | | | | | |
| | | | | | Orient—Norfolk and Newport News: | | | | |
| | | | | | Line No. 1, 9 ships.... | 19.9 | 19.9 | 0.88 | 0.88 |
| | | | | | Line No. 2, 17 ships.... | 20.0 | 20.0 | .77 | .77 |
| | | | | | Line No. 3, 12 ships.... | 15.7 | 15.7 | .68 | .68 |
| | | | | | Average..... | 18.1 | 18.1 | .77 | .77 |
| <i>Intercoastal trade</i> | | | | | <i>Intercoastal trade</i> | | | | |
| Line No. 1, 17 ships..... | 23.1 | 25.8 | 0.99 | 1.11 | Line No. 1, 17 ships..... | 12.4 | 13.9 | 0.60 | 0.67 |
| | | | | | Line No. 2, 18 ships..... | 10.3 | 11.5 | .49 | .55 |
| | | | | | Average..... | 11.1 | 12.5 | .54 | .60 |
| <i>Coastwise trade</i> | | | | | <i>Coastwise trade</i> | | | | |
| Line No. 1, 306 ships..... | (1) | (1) | .71 | 1.80 | Line No. 1, 306 ships..... | (1) | (1) | .93 | 1.04 |
| Line No. 2, 261 ships..... | (1) | (1) | .81 | 1.91 | Line No. 2, 258 ships..... | (1) | (1) | 1.09 | 1.22 |
| Average..... | (1) | (1) | .75 | 1.84 | Average..... | (1) | (1) | 1.00 | 1.12 |

Baltimore

| | | | | | | | | | |
|----------------------------|------|------|------|------|----------------------------|------|------|------|------|
| <i>Foreign trade</i> | | | | | <i>Foreign trade</i> | | | | |
| Europe: | | | | | Europe: | | | | |
| Line No. 1, 15 ships .. | 30.4 | 30.6 | 1.47 | 1.47 | Line No. 1, 11 ships.. | 27.7 | 27.7 | 1.34 | 1.34 |
| Line No. 2, 12 ships .. | 26.5 | 26.5 | 1.23 | 1.23 | Line No. 2, 9 ships.... | 24.2 | 24.2 | 1.24 | 1.24 |
| Line No. 3, 9 ships | 23.4 | 23.4 | 1.17 | 1.17 | Line No. 3, 14 ships.... | 20.2 | 20.2 | 1.11 | 1.11 |
| Line No. 4, 15 ships .. | 16.5 | 16.5 | .84 | .84 | Line No. 4, 15 ships.. | 19.8 | 19.8 | .93 | .93 |
| Average..... | 24.3 | 24.4 | 1.19 | 1.19 | Average..... | 21.9 | 21.9 | 1.12 | 1.12 |
| <i>Intercoastal trade</i> | | | | | <i>Intercoastal trade</i> | | | | |
| Line No. 1, 16 ships..... | 23.3 | 26.1 | 1.13 | 1.26 | Line No. 1, 13 ships.... | 20.4 | 22.8 | 1.23 | 1.38 |
| | | | | | Line No. 2, 13 ships.... | 20.1 | 22.5 | 1.10 | 1.23 |
| | | | | | Line No. 3, 24 ships.... | 21.0 | 23.5 | 1.03 | 1.15 |
| | | | | | Line No. 4, 14 ships.... | 16.7 | 18.8 | .92 | 1.03 |
| | | | | | Line No. 5, 12 ships.... | 15.8 | 17.7 | .84 | .94 |
| | | | | | Average..... | 19.6 | 22.0 | 1.02 | 1.14 |
| <i>Coastwise trade</i> | | | | | <i>Coastwise trade</i> | | | | |
| Line No. 1, 103 ships..... | (1) | (1) | .87 | 1.97 | Line No. 1, 255 ships..... | (1) | (1) | .88 | 1.99 |
| Line No. 2, 275 ships..... | (1) | (1) | .86 | 1.96 | Line No. 2, 102 ships..... | (1) | (1) | .87 | 1.97 |
| Average..... | (1) | (1) | .87 | 1.97 | Average..... | (1) | (1) | .88 | 1.99 |

¹ Not available.² Short tons.

LABOR PRODUCTIVITY IN CARGO HANDLING

11

TABLE 1.—PRODUCTIVITY OF LABOR IN HANDLING GENERAL CARGO—Continued

Philadelphia

| Discharging cargo | | | | | Loading cargo | | | | |
|------------------------------|----------------------|--------------|---------------------|--------------|------------------------------|----------------------|--------------|---------------------|--------------|
| Trade route, and line number | Output per gang-hour | | Output per man-hour | | Trade route, and line number | Output per gang-hour | | Output per man-hour | |
| | Long tons | Revenue tons | Long tons | Revenue tons | | Long tons | Revenue tons | Long tons | Revenue tons |
| <i>Foreign trade</i> | | | | | <i>Foreign trade</i> | | | | |
| <i>Europe:</i> | | | | | <i>Europe:</i> | | | | |
| Line No. 1, 13 ships | (1) | 26.8 | (1) | 1.21 | Line No. 1, 15 ships | 31.2 | 31.2 | 1.42 | 1.42 |
| Line No. 2, 33 ships | 26.1 | 26.7 | 1.18 | 1.20 | Line No. 2, 14 ships | 31.1 | 31.1 | 1.20 | 1.20 |
| Line No. 3, 12 ships | 21.1 | 21.1 | 1.08 | 1.08 | Line No. 3, 17 ships | 23.9 | 24.1 | 1.07 | 1.08 |
| Line No. 4, 26 ships | 22.5 | 22.5 | 1.06 | 1.06 | Line No. 4, 15 ships | 23.2 | 23.2 | 1.08 | 1.08 |
| Line No. 5, 20 ships | 23.2 | 23.2 | 1.06 | 1.06 | Line No. 5, 19 ships | 19.8 | 19.8 | .89 | .89 |
| Line No. 6, 18 ships | 22.4 | 22.4 | 1.05 | 1.05 | Line No. 6, 13 ships | 18.5 | 18.5 | .76 | .76 |
| Line No. 7, 11 ships | 21.8 | 21.8 | .94 | .94 | Line No. 7, 16 ships | 14.8 | 14.8 | .68 | .68 |
| Line No. 8, 11 ships | 21.3 | 21.3 | .91 | .91 | | | | | |
| Line No. 9, 15 ships | 18.9 | 20.1 | .82 | .86 | | | | | |
| Average | 23.2 | 24.0 | 1.05 | 1.09 | Average | 23.2 | 23.3 | 1.00 | 1.00 |
| <i>Orient:</i> | | | | | <i>Orient:</i> | | | | |
| Line No. 1, 13 ships | (1) | 40.2 | (1) | 1.69 | Line No. 1, 20 ships | 19.6 | 21.1 | 1.04 | 1.12 |
| <i>Latin America:</i> | | | | | <i>Latin America:</i> | | | | |
| Line No. 1, 18 ships | 24.4 | 24.4 | 1.02 | 1.02 | Line No. 1, 15 ships | 33.3 | 33.3 | 1.35 | 1.35 |
| <i>Intercoastal trade</i> | | | | | <i>Intercoastal trade</i> | | | | |
| Line No. 1, 38 ships | 22.4 | 25.0 | 1.18 | 1.32 | Line No. 1, 23 ships | 16.0 | 18.0 | 0.92 | 1.03 |
| Line No. 2, 25 ships | 22.1 | 24.7 | .94 | 1.06 | Line No. 2, 25 ships | 15.5 | 17.3 | .86 | .96 |
| | | | | | Line No. 3, 13 ships | 12.7 | 14.2 | .72 | .80 |
| | | | | | Line No. 4, 23 ships | 15.9 | 17.8 | .69 | .78 |
| Average | 22.3 | 24.9 | 1.10 | 1.23 | Average | 15.5 | 17.4 | .83 | .93 |
| <i>Coastwise trade</i> | | | | | <i>Coastwise trade</i> | | | | |
| Line No. 1, 267 ships | (1) | (1) | .86 | .96 | Line No. 1, 298 ships | (1) | (1) | .88 | .98 |
| Line No. 2, 103 ships | (1) | (1) | .83 | .93 | Line No. 2, 106 ships | (1) | (1) | .59 | .66 |
| Average | (1) | (1) | .85 | .95 | Average | (1) | (1) | .71 | .80 |

Boston

| | | | | | | | | | |
|-----------------------|------|------|------|------|----------------------|------|------|------|------|
| <i>Foreign trade</i> | | | | | <i>Foreign trade</i> | | | | |
| <i>Europe:</i> | | | | | <i>Europe:</i> | | | | |
| Line No. 1, 8 ships | 28.7 | 28.7 | 1.52 | 1.52 | Line No. 1, 9 ships | 22.9 | 22.9 | 1.22 | 1.22 |
| Line No. 2, 22 ships | 26.1 | 26.1 | 1.34 | 1.34 | Line No. 2, 30 ships | 18.1 | 18.1 | .92 | .92 |
| Line No. 3, 20 ships | 20.6 | 20.6 | 1.10 | 1.10 | Line No. 3, 10 ships | 14.7 | 14.7 | .76 | .76 |
| Line No. 4, 18 ships | 18.4 | 18.4 | 1.05 | 1.05 | Line No. 4, 16 ships | (1) | 10.7 | (1) | .61 |
| Line No. 5, 26 ships | (1) | 18.0 | (1) | 1.00 | | | | | |
| Line No. 6, 21 ships | 18.3 | 18.3 | .98 | .98 | | | | | |
| Line No. 7, 14 ships | 16.3 | 17.0 | .86 | .90 | | | | | |
| Line No. 8, 13 ships | (1) | 15.4 | (1) | .85 | | | | | |
| Average | 20.8 | 19.9 | 1.11 | 1.08 | Average | 18.5 | 16.5 | .95 | .87 |
| <i>Near East:</i> | | | | | | | | | |
| Line No. 1, 8 ships | 33.6 | 33.6 | 1.74 | 1.74 | | | | | |
| Line No. 2, 9 ships | 28.2 | 28.2 | 1.48 | 1.48 | | | | | |
| Average | 29.1 | 29.1 | 1.53 | 1.53 | | | | | |
| <i>Latin America:</i> | | | | | | | | | |
| Line No. 1, 24 ships | 21.9 | 21.9 | .92 | .92 | | | | | |

¹ Not available.² Average for 8 lines only.

Average for 3 lines only.

³ Short tons.⁴ Average for 6 lines only.

TABLE 1.—PRODUCTIVITY OF LABOR IN HANDLING GENERAL CARGO—Continued
Boston—Continued

| Discharging cargo | | | | | Loading cargo | | | | |
|------------------------------|----------------------|-------------------|---------------------|-------------------|------------------------------|----------------------|-------------------|---------------------|-------------------|
| Trade route, and line number | Output per gang-hour | | Output per man-hour | | Trade route, and line number | Output per gang-hour | | Output per man-hour | |
| | Long tons | Revenue tons | Long tons | Revenue tons | | Long tons | Revenue tons | Long tons | Revenue tons |
| <i>Foreign trade—Contd.</i> | | | | | <i>Foreign trade—Contd.</i> | | | | |
| <i>Orient:</i> | | | | | <i>Orient:</i> | | | | |
| Line No. 1, 8 ships..... | 24.2 | 31.3 | 1.26 | 1.63 | Line No. 1, 11 ships.... | (¹) | 12.8 | (¹) | 0.70 |
| Line No. 2, 15 ships..... | 21.8 | 30.1 | 1.18 | 1.63 | | | | | |
| Line No. 3, 10 ships..... | (¹) | 29.9 | (¹) | 1.51 | | | | | |
| Line No. 4, 22 ships..... | 24.4 | 24.4 | 1.26 | 1.26 | | | | | |
| Line No. 5, 10 ships..... | (¹) | 20.3 | (¹) | 1.09 | | | | | |
| Line No. 6, 15 ships..... | 19.9 | 19.9 | .98 | .98 | | | | | |
| Line No. 7, 10 ships..... | 13.4 | 13.4 | .67 | .67 | | | | | |
| Average..... | ⁷ 22.1 | 24.3 | ⁷ 1.16 | 1.27 | | | | | |
| <i>Intercoastal trade</i> | | | | | <i>Intercoastal trade</i> | | | | |
| Line No. 1, 26 ships..... | 17.3 | ³ 19.3 | .95 | ³ 1.07 | Line No. 1, 24 ships..... | 10.1 | ³ 11.3 | .49 | ³ .55 |
| Line No. 2, 27 ships..... | 16.3 | ³ 18.2 | .84 | ³ .94 | Line No. 2, 24 ships..... | 8.2 | ³ 9.2 | .46 | ³ .51 |
| Average..... | 16.5 | ³ 18.5 | .87 | ³ .98 | Average..... | 9.2 | ³ 10.3 | .48 | ³ .53 |
| <i>Coastwise trade</i> | | | | | <i>Coastwise trade</i> | | | | |
| Line No. 1, 52 ships..... | (¹) | (¹) | 1.11 | ³ 1.24 | Line No. 1, 52 ships..... | (¹) | (¹) | 1.25 | ³ 1.35 |
| Line No. 2, 154 ships..... | (¹) | (¹) | .96 | ³ 1.07 | Line No. 2, 154 ships..... | (¹) | (¹) | .97 | ³ 1.08 |
| Line No. 3, 299 ships..... | (¹) | (¹) | .80 | ³ .88 | Line No. 3, 298 ships..... | (¹) | (¹) | .83 | ³ .93 |
| Average..... | (¹) | (¹) | .94 | ³ 1.05 | Average..... | (¹) | (¹) | .97 | ³ 1.08 |

New York

| <i>Foreign trade</i> | | | | | <i>Foreign trade</i> | | | | |
|--------------------------------------|-------------------|------|------------------|------|--------------------------------------|--------------------|------|-------------------|------|
| <i>Europe, big passenger liners:</i> | | | | | <i>Europe, big passenger liners:</i> | | | | |
| Line No. 1, 17 ships.... | 18.3 | 38.4 | 0.57 | 1.19 | Line No. 1, 24 ships.... | 21.7 | 29.0 | 0.95 | 1.26 |
| Line No. 2, 24 ships.... | 15.4 | 26.2 | .65 | 1.10 | Line No. 2, 12 ships.... | 15.0 | 26.1 | .63 | 1.08 |
| Line No. 3, 14 ships.... | 14.2 | 26.6 | .51 | .95 | Line No. 3, 14 ships.... | 16.2 | 23.6 | .72 | 1.05 |
| Line No. 4, 17 ships.... | 15.6 | 24.0 | .60 | .93 | Line No. 4, 17 ships.... | 19.1 | 33.2 | .59 | 1.02 |
| Line No. 5, 17 ships.... | 13.5 | 24.1 | .50 | .89 | Line No. 5, 13 ships.... | 13.0 | 23.6 | .56 | 1.02 |
| Line No. 6, 12 ships.... | (¹) | 19.3 | (¹) | .86 | Line No. 6, 20 ships.... | 13.4 | 25.7 | .51 | .97 |
| Line No. 7, 24 ships.... | (¹) | 17.0 | (¹) | .81 | Line No. 7, 16 ships.... | 17.1 | 23.1 | .70 | .95 |
| Line No. 8, 12 ships.... | (¹) | 14.2 | (¹) | .68 | Line No. 8, 14 ships.... | 14.6 | 23.8 | .52 | .85 |
| Line No. 9, 13 ships.... | 12.1 | 18.3 | .43 | .66 | Line No. 9, 17 ships.... | 12.9 | 22.7 | .48 | .84 |
| Average..... | ⁶ 15.6 | 24.2 | ⁶ .57 | .95 | Average..... | 16.5 | 26.3 | .64 | 1.03 |
| <i>Europe, other vessels:</i> | | | | | <i>Europe, other vessels:</i> | | | | |
| Line No. 1, 5 ships.... | 14.6 | 37.5 | .62 | 1.60 | Line No. 1, 24 ships.... | 22.0 | 32.7 | 1.02 | 1.52 |
| Line No. 2, 20 ships.... | 23.3 | 23.4 | 1.27 | 1.28 | Line No. 2, 13 ships.... | 19.9 | 33.7 | .88 | 1.49 |
| Line No. 3, 9 ships.... | 15.4 | 30.9 | .58 | 1.16 | Line No. 3, 22 ships.... | 12.8 | 25.8 | .72 | 1.45 |
| Line No. 4, 16 ships.... | 23.0 | 23.3 | 1.13 | 1.15 | Line No. 4, 14 ships.... | 24.3 | 27.6 | 1.18 | 1.35 |
| Line No. 5, 25 ships.... | 22.2 | 22.7 | 1.01 | 1.04 | Line No. 5, 12 ships.... | 20.1 | 27.9 | .91 | 1.26 |
| Line No. 6, 15 ships.... | (¹) | 22.9 | (¹) | .99 | Line No. 6, 12 ships.... | 14.4 | 25.8 | .69 | 1.24 |
| Line No. 7, 11 ships.... | (¹) | 20.0 | (¹) | .96 | Line No. 7, 13 ships.... | 13.4 | 25.4 | .65 | 1.23 |
| Line No. 8, 13 ships.... | 16.6 | 19.5 | .76 | .90 | Line No. 8, 12 ships.... | 17.7 | 28.4 | .77 | 1.23 |
| Line No. 9, 15 ships.... | 15.1 | 17.3 | .72 | .83 | Line No. 9, 24 ships.... | 22.1 | 26.5 | 1.00 | 1.20 |
| Line No. 10, 12 ships.... | 13.4 | 15.8 | .61 | .72 | Line No. 10, 12 ships.... | (¹) | 26.9 | (¹) | 1.19 |
| Line No. 11, 10 ships.... | (¹) | 14.2 | (¹) | .68 | Line No. 11, 11 ships.... | 18.3 | 28.1 | .71 | 1.09 |
| Average..... | ³ 17.9 | 21.0 | ³ .83 | .97 | Line No. 12, 8 ships.... | 21.8 | 35.3 | .67 | 1.08 |
| | | | | | Average..... | ¹⁰ 18.2 | 28.3 | ¹⁰ .83 | 1.28 |

¹ Not available.
³ Short tons.⁴ Average for 8 lines only.
⁶ Average for 6 lines only.⁷ Average for 5 lines only.
¹⁰ Average for 11 lines only.

TABLE 1.—PRODUCTIVITY OF LABOR IN HANDLING GENERAL CARGO—Continued

New York—Continued

| Discharging cargo | | | | | Loading cargo | | | | |
|------------------------------|----------------------|-------------------|---------------------|-------------------|------------------------------|----------------------|-------------------|---------------------|-------------------|
| Trade route, and line number | Output per gang-hour | | Output per man-hour | | Trade route, and line number | Output per gang-hour | | Output per man-hour | |
| | Long tons | Revenue tons | Long tons | Revenue tons | | Long tons | Revenue tons | Long tons | Revenue tons |
| <i>Foreign trade—Contd.</i> | | | | | <i>Foreign trade—Contd.</i> | | | | |
| <i>Orient and Africa:</i> | | | | | <i>Orient and Africa:</i> | | | | |
| Line No. 1, 11 ships.. | 20.6 | 36.1 | 1.00 | 1.76 | Line No. 1, 14 ships.. | 13.9 | 27.4 | 0.69 | 1.36 |
| Line No. 2, 12 ships.. | 31.3 | 42.9 | 1.14 | 1.56 | Line No. 2, 18 ships.. | 11.7 | 27.4 | .56 | 1.31 |
| Line No. 3, 16 ships.. | 21.2 | 27.2 | 1.21 | 1.55 | Line No. 3, 11 ships.. | (1) | 22.1 | (1) | 1.13 |
| Line No. 4, 9 ships.. | 18.3 | 23.2 | .86 | 1.09 | Line No. 4, 12 ships.. | 15.7 | 20.5 | .81 | 1.06 |
| Line No. 5, 13 ships.. | 19.1 | 19.1 | 1.07 | 1.07 | Line No. 5, 12 ships.. | 12.3 | 22.8 | .56 | 1.05 |
| Line No. 6, 13 ships.. | 17.1 | 20.3 | .78 | .93 | Line No. 6, 9 ships.. | 14.3 | 20.3 | .74 | 1.04 |
| Line No. 7, 12 ships.. | (1) | 23.8 | (1) | .92 | Line No. 7, 12 ships.. | 13.5 | 20.5 | .65 | .99 |
| Line No. 8, 11 ships.. | 17.9 | 20.1 | .71 | .80 | Line No. 8, 13 ships.. | (1) | 18.9 | (1) | .96 |
| | | | | | Line No. 9, 13 ships.. | 11.2 | 16.8 | .60 | .91 |
| Average..... | ² 20.4 | 25.0 | ² .93 | 1.11 | Average..... | ² 12.7 | 22.0 | ² .63 | 1.09 |
| <i>Latin America:</i> | | | | | <i>Latin America:</i> | | | | |
| Line No. 1, 21 ships.. | 29.4 | 31.0 | 1.17 | 1.24 | Line No. 1, 17 ships.. | 15.1 | 29.6 | .71 | 1.38 |
| Line No. 2, 20 ships.. | 30.5 | 30.5 | 1.23 | 1.23 | Line No. 2, 14 ships.. | 18.5 | 24.6 | .94 | 1.25 |
| Line No. 3, 12 ships.. | 21.5 | 21.5 | 1.05 | 1.05 | Line No. 3, 18 ships.. | (1) | 27.0 | (1) | 1.23 |
| Line No. 4, 13 ships.. | 26.4 | 26.4 | .96 | .96 | Line No. 4, 24 ships.. | 16.3 | 26.2 | .74 | 1.19 |
| Line No. 5, 13 ships.. | 18.5 | 19.1 | .65 | .68 | Line No. 5, 13 ships.. | 11.7 | 21.2 | .63 | 1.15 |
| | | | | | Line No. 6, 11 ships.. | 14.9 | 14.9 | .79 | .79 |
| Average..... | 23.2 | 23.7 | .92 | .94 | Average..... | ⁷ 15.9 | 25.3 | ⁷ .77 | 1.22 |
| <i>Intercoastal trade</i> | | | | | <i>Intercoastal trade</i> | | | | |
| Line No. 1, 25 ships.. | 23.8 | ³ 26.7 | 1.02 | ³ 1.14 | Line No. 1, 24 ships.. | 14.1 | ³ 15.8 | .64 | ³ .72 |
| Line No. 2, 24 ships.. | 20.3 | ³ 22.7 | .97 | ³ 1.09 | Line No. 2, 23 ships.. | 12.6 | ³ 14.1 | .56 | ³ .63 |
| Line No. 3, 21 ships.. | 17.1 | ³ 19.1 | .69 | ³ .77 | Line No. 3, 20 ships.. | 11.6 | ³ 13.0 | .50 | ³ .56 |
| Average..... | 19.6 | ³ 22.0 | .84 | ³ .95 | Average..... | 12.8 | ³ 14.3 | .56 | ³ .63 |
| <i>Coastwise trade</i> | | | | | <i>Coastwise trade</i> | | | | |
| Line No. 1, 157 ships.. | (1) | (1) | 1.15 | ³ 1.29 | Line No. 1, 121 ships.. | (1) | (1) | 1.61 | ³ 1.80 |
| Line No. 2, 120 ships.. | (1) | (1) | .93 | ³ 1.04 | Line No. 2, 119 ships.. | (1) | (1) | 1.53 | ³ 1.71 |
| Line No. 3, 120 ships.. | (1) | (1) | .88 | ³ .99 | Line No. 3, 155 ships.. | (1) | (1) | 1.06 | ³ 1.19 |
| Line No. 4, 73 ships.. | (1) | (1) | .66 | ³ .74 | Line No. 4, 83 ships.. | (1) | (1) | .90 | ³ 1.01 |
| Average..... | (1) | (1) | .81 | ³ .91 | Average..... | (1) | (1) | 1.10 | ³ 1.23 |

¹ Not available.³ Short tons.⁷ Average for 5 lines only.² Average for 7 lines only.

Loading Individual Commodities

IN ADDITION to miscellaneous cargoes, a considerable number of important commodities are handled in the individual ports, either in full-ship cargoes or in lots sufficiently large to permit measurement of the productivity of longshore labor in handling these individual commodities. The methods of handling these commodities differ considerably from port to port and not infrequently from line to line in the same port. The statistics of labor productivity for some of these commodities, presented below, offer an opportunity of comparing the productivity of longshore labor not only as it varies from port to port, but also as it varies with the different equipment or methods used.

Loading Cotton

Table 2 gives the productivity of labor in loading cotton, in terms of long tons and bales handled per gang per hour and per man per hour, in Galveston, Houston, New Orleans, Mobile, Savannah, Charleston, and Norfolk and Newport News. It also shows the average number of men used per gang in loading cotton in the various ports mentioned. There is very little difference in the methods used in loading cotton in the Gulf ports. Most of the cotton shipped abroad comes in highly condensed bales. It is loaded by means of the ship's gear and a single fall, commonly known as the "whip." Only one boom and one winch are used by each gang. The bales of cotton are brought to the apron of the pier either on a hand truck or, less often, on a 4-wheel truck, and are placed in rope slings at the foot of an inclined platform, which is rigged to lead from the pier to the ship's railing, and from there to the hatch. When the sling load is formed (usually three bales to a load) and the hook of the ship's fall is attached to the sling, the winchman starts the operation of the winch, and the load is dragged upward along the slanting platform to the deck of the ship and from there to the hatch. It is then lowered into the ship by its own weight and the hold men stow the bales in the ship after the sling has been undone and the hook is returned to the pier.

The process of loading cotton is shown in Figure 1. It shows the truckers delivering cotton to the apron of the pier, and a series of inclined heavy platforms leading from the pier to the deck of the ship. At the foot of one of these platforms three bales of cotton can be seen lying on a rope, and the "slinger" is about to raise the rope to complete the sling load. On the next platform can be seen a sling load of cotton in the process of being dragged upward from the pier to the deck of the ship.

In Savannah, Charleston, and Norfolk a somewhat different arrangement of ship's gear is used in loading the cotton. This arrangement, by which two winches and two falls are used in the operation, is known as the "union" or "married" fall. By the joint operations of the two winches the sling load is lifted directly from the pier over the railing of the ship and is lowered into the hold of the ship with a single uninterrupted movement. No skids are used, either leading from the apron of the ship or on the ship proper. The size of the gang used is also different in these ports. In Galveston and Houston the average gang consists of 15 men, but double gangs are frequently used at one hatch. In New Orleans and Mobile the average gang consists of from 16 to 18 men, while in Savannah, Charleston, and Norfolk the gang is at times made up of 30 or more men, which corresponds approximately to the double gang used in Galveston and Houston.

Because of the variation in the size of the gang, there is a marked variation in the productivity of labor expressed in terms of cotton handled per gang per hour. Norfolk and Newport News show an average of 135 bales per gang per hour, while Houston and Galveston show somewhat less than 100 bales per gang per hour. Based on the output per man per hour, Houston leads all other ports with 1.47 long tons, or 6.6 bales, of cotton loaded per man per hour, while Charleston shows the lowest productivity, 0.69 long ton, or 3.1 bales, loaded per man per hour.

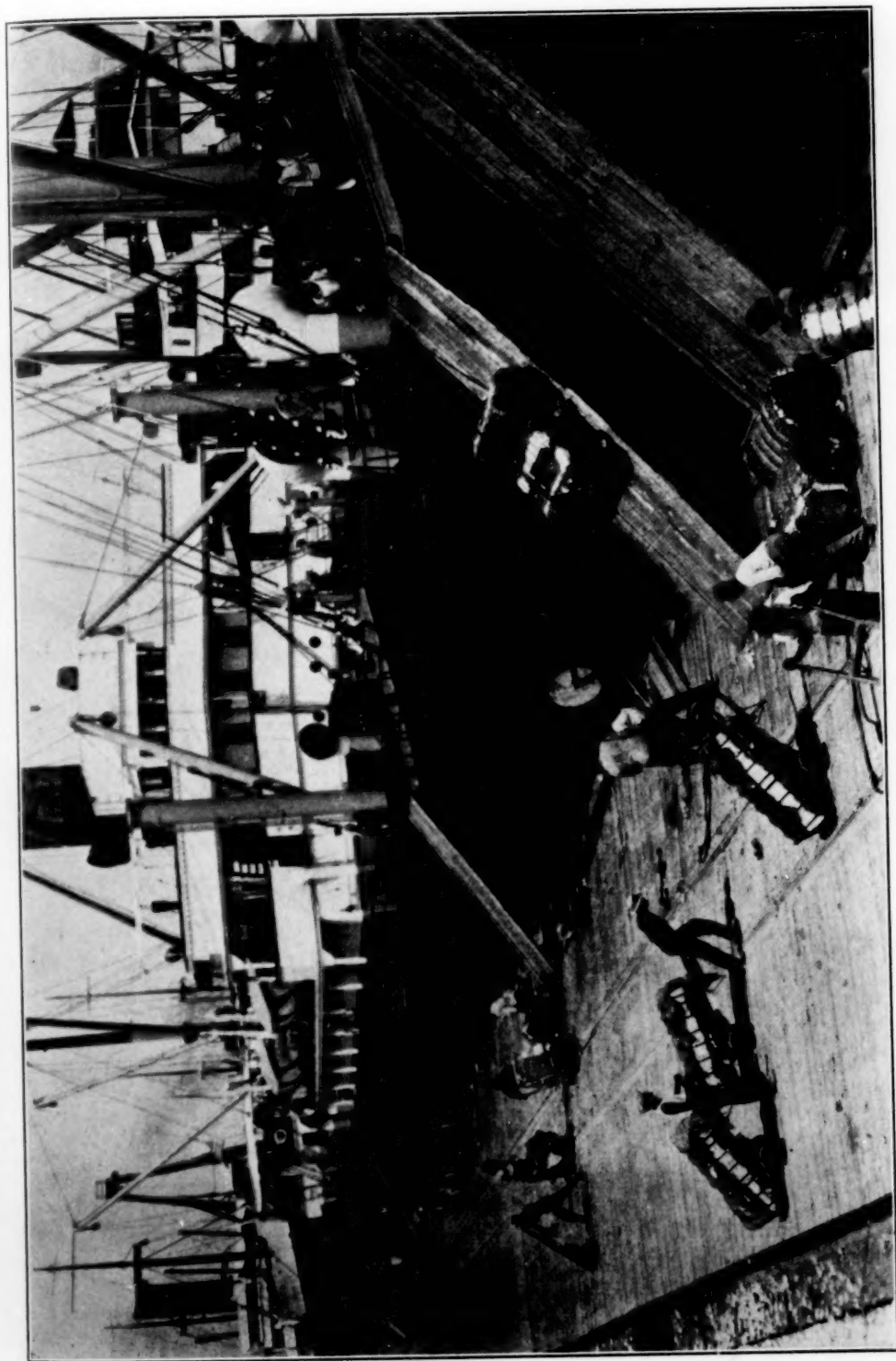


FIGURE 1.—LOADING COTTON AT A PIER IN GALVESTON

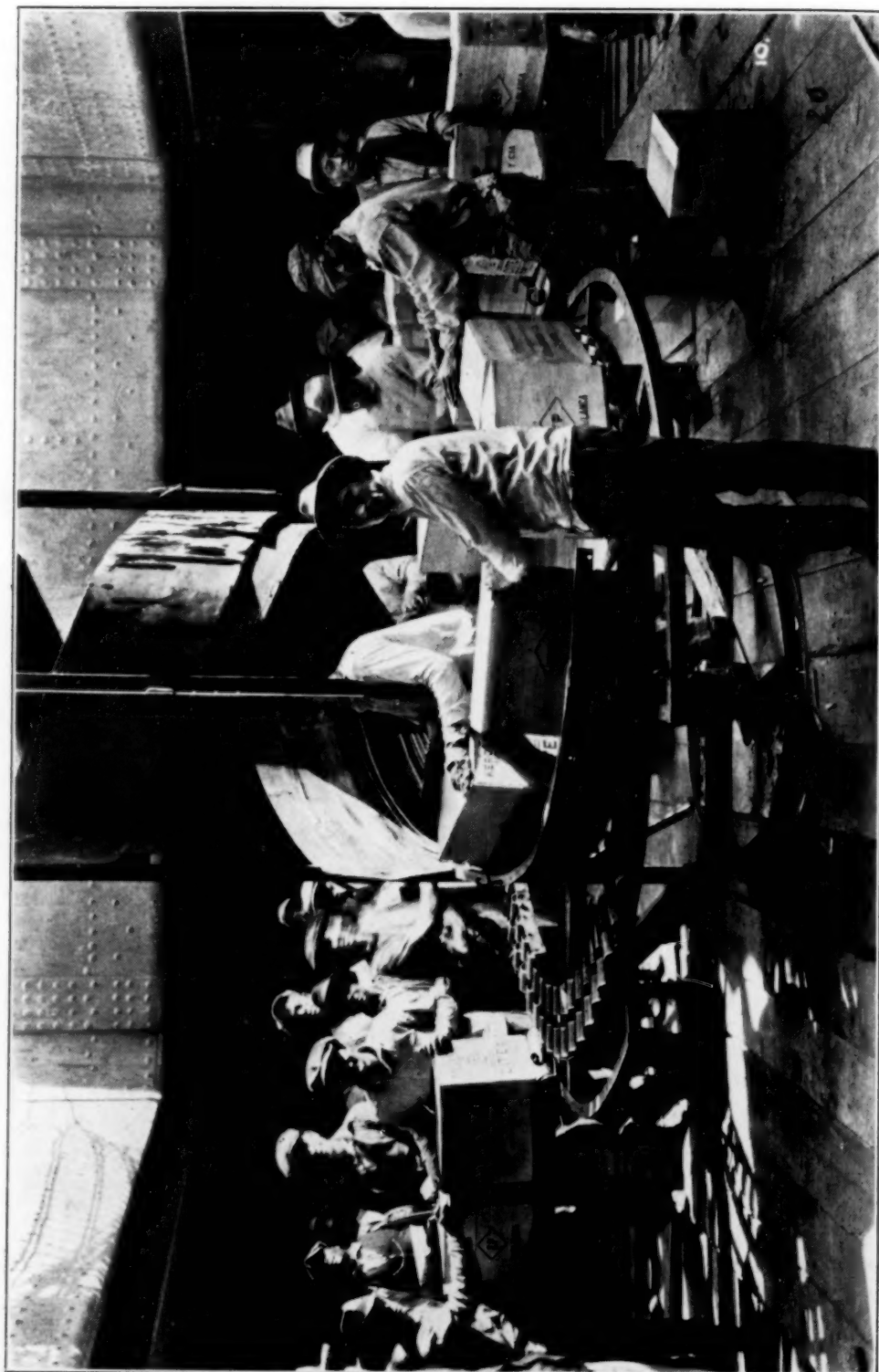


FIGURE 2.—LOADING CASE OIL WITH SPIRAL CONVEYOR IN NEW ORLEANS. BASE OF CONVEYOR INSIDE HATCH

Galveston
Line
Line
Line
Line

Houston
Line
Line
Line

Line
sch

New Orleans
Line
Line
Line

Mobil
Line
Line
Line

Savannah
Line
Line
Line
Line
Line

Charleston
Line
Line
Line

Norfolk
Line
Line
Line

ta
lar
ge
pi
in
th
th
T
ca
P
th

TABLE 2.—PRODUCTIVITY OF LABOR IN THE LOADING OF COTTON

| Port, and line number | Output per gang-hour | | Average number of men per gang | Output per man-hour | |
|---|----------------------|-------|--------------------------------|---------------------|-------|
| | Long tons | Bales | | Long tons | Bales |
| Galveston: | | | | | |
| Line No. 1, 8 ships..... | 23.6 | 106.0 | 15.0 | 1.57 | 7.1 |
| Line No. 2, 35 ships..... | 22.1 | 98.8 | 15.0 | 1.47 | 6.6 |
| Line No. 3, 10 ships..... | 21.9 | 98.4 | 15.0 | 1.46 | 6.6 |
| Line No. 4, 34 ships..... | 21.3 | 95.7 | 15.0 | 1.42 | 6.4 |
| Average..... | 21.8 | 97.7 | 15.0 | 1.45 | 6.5 |
| Houston: | | | | | |
| Line No. 1, 10 ships..... | 23.2 | 104.0 | 15.0 | 1.55 | 6.9 |
| Line No. 2, 16 ships..... | 22.3 | 100.2 | 15.0 | 1.49 | 6.7 |
| Line No. 3, 32 ships..... | 21.6 | 97.2 | 15.0 | 1.44 | 6.5 |
| Average..... | 22.0 | 99.1 | 15.0 | 1.47 | 6.6 |
| Line No. 4, 9 ships, hand stowed and screwed..... | 14.5 | 65.3 | 20.1 | .72 | 3.3 |
| New Orleans: | | | | | |
| Line No. 1, 21 ships..... | 22.1 | 99.4 | 18.0 | 1.23 | 5.5 |
| Line No. 2, 14 ships..... | 20.3 | 91.2 | 18.0 | 1.13 | 5.1 |
| Line No. 3, 14 ships..... | 19.5 | 88.6 | 18.0 | 1.08 | 4.9 |
| Average..... | 20.7 | 93.7 | 18.0 | 1.15 | 5.2 |
| Mobile: | | | | | |
| Line No. 1, 26 ships..... | 20.2 | 89.5 | 16.9 | 1.20 | 5.3 |
| Line No. 2, 9 ships..... | 19.9 | 88.3 | 17.0 | 1.17 | 5.2 |
| Line No. 3, 17 ships..... | 15.2 | 67.4 | 16.3 | .93 | 4.1 |
| Average..... | 19.9 | 88.3 | 16.9 | 1.18 | 5.2 |
| Savannah: | | | | | |
| Line No. 1, 11 ships..... | 26.7 | 119.0 | 30.0 | .89 | 4.0 |
| Line No. 2, 13 ships..... | 22.6 | 100.1 | 28.9 | .78 | 3.5 |
| Line No. 3, 21 ships..... | 24.4 | 109.8 | 32.0 | .76 | 3.4 |
| Line No. 4, 13 ships..... | 20.0 | 90.0 | 30.3 | .66 | 3.0 |
| Line No. 5, 15 ships..... | 19.1 | 86.0 | 30.0 | .64 | 2.9 |
| Average..... | 22.1 | 98.8 | 30.3 | .73 | 3.3 |
| Charleston: | | | | | |
| Line No. 1, 11 ships..... | 20.2 | 91.3 | 26.8 | .75 | 3.4 |
| Line No. 2, 18 ships..... | 18.7 | 84.0 | 27.2 | .69 | 3.1 |
| Line No. 3, 13 ships..... | 16.9 | 75.2 | 26.8 | .63 | 2.8 |
| Average..... | 18.5 | 82.8 | 26.8 | .69 | 3.1 |
| Norfolk and Newport News: | | | | | |
| Line No. 1, 17 ships..... | 30.5 | 135.4 | 22.6 | 1.35 | 6.0 |
| Line No. 2, 23 ships..... | 30.3 | 136.5 | 22.9 | 1.32 | 6.0 |
| Line No. 3, 10 ships..... | 28.9 | 130.0 | 22.6 | 1.28 | 5.8 |
| Average..... | 30.0 | 135.0 | 22.6 | 1.33 | 6.0 |

Loading Case Oil

Case oil is the term applied to refined oil loaded in five-gallon containers and packed into uniform boxes, two containers per box. In large quantities case oil is loaded at the refineries proper, which are generally well equipped for the purpose of supplying the oil to their piers, and in some ports they are also equipped to load the case oil into ships. At times, however, particularly in the port of New York, the case oil is loaded at the refineries into lighters and then is moved to the berth of the ship, where it is loaded from the lighter into the ship. Table 3 gives the figures of productivity of longshore labor in loading case oil at the refineries in San Francisco, Port Arthur, New Orleans, Philadelphia, and New York, and for the last-named city also showing the productivity in loading case oil from lighters to the ship.

There are three distinct methods used in loading case oil in the ports shown in this table. The first method, used in San Francisco and in New York in loading case oil from lighters to the ship differs very little from the usual handling of general cargo prevailing in the port. In both ports the ship's gear is used exclusively and two winches and two falls are used for each hatch. The cases are formed into sling loads, on "platform" or "airplane" slings as they are called in New York, lifted aboard ship and into the hatch by a joint operation of the two winches, and then stowed into the hold of the ship. The methods used in San Francisco and in New York in loading case oil from lighters are so similar that the productivity of the two ports varies but slightly when measured in terms either of gang-hour or of man-hour output. San Francisco shows an average of 825 cases or 31.2 long tons per gang-hour and 49 cases or 1.86 long tons per man-hour, while New York, in loading from lighters to ships, shows an average of 857 cases or 32.5 long tons per gang-hour and 45 cases or 1.71 long tons per man-hour.

In the second method, which applies to the refineries of Philadelphia and New York, ship's gear is also used for the purpose of loading the case oil. The system used in Philadelphia involves the utilization of three falls, one for lifting the case-oil slings from the "apron" of the pier to the deck of the ship along a system of platforms similar to that described in the case of cotton. Once the sling load is landed on the deck of the ship, a special deck man at once releases the hook of the pier fall and drops it back on the pier for another sling load. In the meantime, another deck man attaches the hook of one of the two up-and-down hatch falls to the sling load on the deck of the ship and the oil is lowered into the hatch and then stowed in the ship by the hold men. In New York the prevailing "Burton" system is used, except that the refinery supplies one winch and a winch operator for the purpose of lifting the case oil from the pier to the deck of the ship. While the sling load is still in process of being lifted from the pier to the ship and before it is landed on the deck, the "Burton" man, as the deckman is called, throws the hook of the up-and-down fall around the sling load so as to attach it to the load. The ship's winch is then started in operation and the sling load of case oil is moved athwart ship and is lowered into the hatch. But while the sling load is being lowered into the hatch, the "Burton" man releases the fall of the pier winch and returns it to the pier for another sling load. The two falls, although operated independently of each other, are so quickly united and then disengaged by the experienced "Burton" man, that the process of loading appears to be moving at a uniform and uninterrupted pace.

In both New York and Philadelphia the longshoremen performing the work of loading case oil are especially trained for this work. The gang used in Philadelphia is larger than that in New York, averaging about 23 men, while the New York gang averages 17 men.

But the productivity in loading case oil in Philadelphia as measured in terms of output per gang per hour is also higher than in New York. Since in both ports only two hatches can be loaded at one time, greater ship dispatch seems to be attained at Philadelphia than at New York. On the other hand, the productivity measured in terms of output per man per hour seems to be larger in New York than in

Philadelphia. In New York the average output per man per hour is 2.95 tons or 78.2 cases, while in Philadelphia the output is 2.65 tons or 73 cases.

The third system of loading case oil is used at the refineries of Port Arthur and New Orleans. In both ports the cases are delivered to the pier from the warehouses of the refineries by means of a series of belts and gravity rollers. In both ports the piers at the refineries are equipped with specially built spiral conveyors, which are lowered into the hold of the ship by means of a crane supported by a movable tower which is capable of traveling on rails along the entire length of the pier. By means of gravity rollers the individual cases are delivered to the conveyor and then down into the hold of the ship. The base of the spiral conveyor is equipped with a ring of gravity rollers and the individual cases upon leaving the spiral conveyor are diverted along the several short lines of gravity rollers scattered throughout the hold of the ship. The only work performed by the longshoremen consists of rigging the ship and then removing the cases from the rollers and stowing them into the hold.

Figure 2 shows the hold of a ship at the refinery in New Orleans with the men at the foot of the spiral conveyor diverting the cases from the conveyor into the various sections of the ship by means of gravity rollers. The refinery at New Orleans has only one of these conveyors, while the refinery at Port Arthur has two similar spiral conveyors and is therefore capable of loading two hatches simultaneously. At both ports the speed of loading is limited only by the ability of the men in the hold to remove the cases from the conveyor and to stow them in the ship. A single conveyor is capable of supplying the ship with 4,000 to 4,500 cases per hour, but the actual quantity stowed is considerably below the capacity of the conveyor. When the present survey was made in New Orleans in 1927 the spiral conveyor at the refinery had been in use for only a short time, and the statistical data shown for this port are based on a smaller number of ships and for a shorter period of time than in the case of Port Arthur. In Port Arthur, as may be seen from the data for the two separate shipping lines shown in Table 3, the productivity of labor is more stabilized, with an output for the two lines averaging 2,029 cases or 76.2 long tons per gang per hour, and 88.2 cases or 3.31 long tons per man per hour. For New Orleans the average productivity per gang-hour is only 1,823 cases or 68.2 long tons per gang per hour, and 55.3 cases or 2.07 long tons per man per hour. It may also be seen from Table 3 that man-hour productivity in New York and in Philadelphia is considerably higher than in New Orleans. The man-hour productivity for one line in New York is even higher than the average of Port Arthur, due chiefly to the remarkable skill developed by the longshoremen both in New York and Philadelphia in handling this particular commodity.

TABLE 3.—PRODUCTIVITY OF LABOR IN THE LOADING OF CASE OIL

| Port, and line number | Output per gang-hour | | Average number of men per gang | Output per man-hour | |
|--------------------------------------|----------------------|---------|--------------------------------|---------------------|-------|
| | Long tons | Cases | | Long tons | Cases |
| San Francisco—refinery: 3 ships..... | 31.2 | 825.0 | 16.8 | 1.86 | 49.0 |
| Port Arthur—refinery: | | | | | |
| Line No. 1, 11 ships..... | 76.5 | 2,035.0 | 23.0 | 3.32 | 88.5 |
| Line No. 2, 23 ships..... | 75.9 | 2,024.0 | 23.0 | 3.30 | 88.0 |
| Average..... | 76.2 | 2,029.0 | 23.0 | 3.31 | 88.2 |
| New Orleans—refinery: 11 ships..... | 68.2 | 1,823.0 | 33.0 | 2.07 | 55.3 |
| Philadelphia—refinery: | | | | | |
| Line No. 1, 19 ships..... | 60.6 | 1,675.0 | 22.6 | 2.68 | 74.0 |
| Line No. 2, 12 ships..... | 58.4 | 1,604.0 | 22.9 | 2.55 | 70.0 |
| Average..... | 60.1 | 1,660.0 | 22.7 | 2.65 | 73.0 |
| New York—refinery: | | | | | |
| Line No. 1, 12 ships..... | 56.6 | 1,510.0 | 17.1 | 3.30 | 88.3 |
| Line No. 2, 6 ships..... | 52.1 | 1,335.0 | 16.3 | 3.20 | 81.9 |
| Line No. 3, 9 ships..... | 47.4 | 1,265.0 | 17.5 | 2.71 | 72.5 |
| Average..... | 50.7 | 1,345.0 | 17.2 | 2.95 | 78.2 |
| New York—from lighters: | | | | | |
| Line No. 1, 15 ships..... | 34.4 | 908.0 | 18.7 | 1.84 | 48.6 |
| Line No. 2, 17 ships..... | 31.4 | 824.0 | 19.3 | 1.63 | 42.7 |
| Average..... | 32.5 | 857.0 | 19.1 | 1.71 | 45.0 |

Loading Flour

Flour is loaded in nearly every port of the United States. In some ports, however, particularly in the East, it was not possible to determine the labor productivity in handling flour separately from the other commodities. Table 4, which gives the productivity of longshore labor in loading flour, therefore refers only to the following ports: Seattle, Tacoma, Portland, Astoria, Galveston, Houston, Port Arthur, and Newport News. In these ports flour is loaded either in full-ship cargoes or in quantities sufficiently large, in comparison with the other commodities, to make it possible to determine the productivity of longshore labor in loading this commodity. With the exception of line No. 1 in Tacoma, and line No. 1 in Portland, the methods used in the ports shown do not differ from the usual method of cargo handling in those ports. The productivity of labor in loading flour on these lines varies from 0.68 long ton per man per hour for Port Arthur to 1.75 long tons per man per hour for the ports of Tacoma and Portland.

In Tacoma and in Seattle a large proportion of the flour is loaded directly at the flour mills by means of belt conveyors and chutes. The ship is rigged out with a series of chutes which lead directly from the mill to the hatch and thence into the various compartments of the ship. The bags of flour are conveyed on belts from their place of storage in the mill and then of their own gravity down the chutes and into the hatch. At this place a special platform is rigged, which slows down the speed of the bag and enables the man working at the platform, known as the "sack turner," to divert the individual bags into the several chutes which lead from this platform into the different sections of the ship's hold. The speed of loading the ship by this

method depends almost entirely on the ability of the men in the hold to stow away the bags. The average output per gang per hour by this method is shown in Table 4 to be 45.1 long tons per gang per hour, or 3.01 long tons per man per hour, but individual ships have been loaded at an average speed of more than twice the tonnage shown in this table.

In Portland, Oreg., portable conveyors are used extensively for the purpose of loading flour from the pier to the ship. As seen in Figure 3, the portable belt conveyor is rigged so as to lead from the apron of the pier to the hatch, where chutes are rigged on a system similar to the one described for Tacoma. The flour is delivered to the conveyor by means of large 4-wheel platform trucks operated by a gasoline tractor, and is unloaded bag by bag from the truck to the conveyor which carries the flour into the ship. The average output per gang per hour for this method is shown in Table 4 to be 62.6 long tons, which is the highest gang-hour productivity shown for loading flour. But because of the larger size of the gang used, the man-hour output is 2.31 long tons, which is considerably lower than the Tacoma average for line No. 1.

TABLE 4.—PRODUCTIVITY OF LABOR IN THE LOADING OF FLOUR

| Port, and line number | Out-put per gang-hour (long tons) | Average number of men per gang | Out-put per man-hour (long tons) | Port, and line number | Out-put per gang-hour (long tons) | Average number of men per gang | Out-put per man-hour (long tons) |
|-------------------------|-----------------------------------|--------------------------------|----------------------------------|---------------------------|-----------------------------------|--------------------------------|----------------------------------|
| Seattle: | | | | Astoria: 11 ships..... | 42.9 | 25.6 | 1.68 |
| Line No. 1, 14 ships... | 40.1 | 20.1 | 2.00 | Galveston: | | | |
| Line No. 2, 13 ships... | 25.0 | 21.0 | 1.19 | Line No. 1, 10 ships... | 23.1 | 15.9 | 1.45 |
| Average..... | 32.2 | 20.6 | 1.56 | Line No. 2, 27 ships... | 20.4 | 15.9 | 1.28 |
| Tacoma: | | | | Line No. 3, 8 ships... | 23.6 | 19.8 | 1.19 |
| Line No. 1, 6 ships... | 45.1 | 15.0 | 3.01 | Average..... | 21.0 | 16.5 | 1.27 |
| Line No. 2, 19 ships... | 32.9 | 21.0 | 1.57 | Houston: 11 ships..... | 24.3 | 18.0 | 1.35 |
| Average..... | 33.7 | 19.3 | 1.75 | Port Arthur: 22 ships.... | 19.2 | 28.3 | .68 |
| Portland, Oreg.: | | | | Newport News: 18 ships.. | 28.3 | 24.0 | 1.18 |
| Line No. 1, 30 ships... | 62.6 | 27.1 | 2.31 | | | | |
| Line No. 2, 20 ships... | 37.9 | 24.7 | 1.53 | | | | |
| Average..... | 44.4 | 25.4 | 1.75 | | | | |

Loading Lumber

There are two sections in this country which specialize in loading lumber: The Pacific Northwest, centering in the State of Washington where the lumber is chiefly softwood; and the South, where hardwood lumber is predominant. In the Northwest, lumber is measured in board feet exclusively, while in the South it is sometimes measured in board feet, but more often in long tons. The statistical data shown in Table 5, giving the longshore productivity in loading lumber per gang-hour and per man-hour, are therefore expressed either in terms of board feet or in terms of long tons, or both. In Seattle, Tacoma, Grays Harbor, and Portland, the principal lumber ports on the Pacific Northwest, lumber is loaded either at the piers of the lumber yards or

at special lumber piers. The cargo is delivered to the ship's side either by means of gantry cranes or Ross carriers, supplied by the operators of the pier. The data for loading lumber, therefore, cover only the operations of lifting the lumber from the ship's side into the ship and stowing it in the ship's hold. This operation is usually referred to as ship's tackle or shipside stevedoring.

On the Pacific coast the methods of lifting the lumber into the ship vary but little from port to port. Ship's gear is used almost exclusively, with the two winches and a "union" or "married" fall operated by one winch man. The productivity of labor in loading lumber on the Pacific coast is shown to vary from an average of 10,200 board feet for Portland and the Columbia River lumber ports to 12,000 board feet per gang per hour for Seattle and the neighboring lumber towns. Expressed in terms of output per man per hour, the productivity varies from 790 board feet per man per hour in Portland to 920 board feet in Seattle.

In the southern ports the lumber is loaded either from the general cargo pier or from a railroad car, exactly in the same way as the general cargo is loaded, except in the case of logs, which are often loaded directly from the stream into the ship. The output per gang per hour varies from 7.5 long tons for Charleston, S. C., to 18.2 long tons for Norfolk and Newport News. The man-hour output varies from 0.32 long ton for Charleston to 0.82 long ton for Norfolk.

TABLE 5.—PRODUCTIVITY OF LABOR IN THE LOADING OF LUMBER

| Port, and line number | Output per gang-hour | | Average number of men per gang | Output per man-hour | |
|------------------------------------|----------------------|------------|--------------------------------|---------------------|------------|
| | Long tons | Board feet | | Long tons | Board feet |
| Seattle and Puget Sound ports: | | | | | |
| Line No. 1, 9 ships..... | 7.7 | 12,300 | 13.0 | 0.59 | 950 |
| Line No. 2, 37 ships..... | 7.5 | 11,900 | 13.0 | .58 | 920 |
| Average..... | 7.5 | 12,000 | 13.0 | .58 | 920 |
| Tacoma: | | | | | |
| Line No. 1, 30 ships..... | 8.4 | 13,400 | 13.1 | .64 | 1,030 |
| Line No. 2, 40 ships..... | 6.3 | 10,100 | 12.1 | .52 | 840 |
| Line No. 3, 28 ships..... | | 9,800 | 12.0 | | 820 |
| Average..... | | 10,400 | 12.1 | | 860 |
| Grays Harbor: | | | | | |
| Line No. 1, 19 ships..... | | 13,400 | 15.2 | | 880 |
| Line No. 2, 80 ships..... | | 10,600 | 12.0 | | 880 |
| Line No. 3, 28 ships..... | | 11,100 | 14.0 | | 790 |
| Line No. 4, 26 ships..... | | 11,600 | 14.8 | | 780 |
| Line No. 5, 47 ships..... | | (1) | (1) | | 770 |
| Average..... | | 10,900 | | | 830 |
| Portland and Columbia River ports: | | | | | |
| Line No. 1, 29 ships..... | | 11,900 | 13.0 | | 920 |
| Line No. 2, 13 ships..... | | 11,900 | 13.2 | | 900 |
| Line No. 3, 11 ships..... | | 9,400 | 12.0 | | 780 |
| Line No. 4, 26 ships..... | | 9,500 | 13.0 | | 730 |
| Line No. 5, 7 ships..... | | 9,000 | 14.1 | | 640 |
| Average..... | | 10,200 | 12.9 | | 790 |

¹ Not available.² Average for 4 lines only.

TABLE 5.—PRODUCTIVITY OF LABOR IN THE LOADING OF LUMBER—Continued

| Port, and line number | Output per gang-hour | | Average number of men per gang | Output per man-hour | |
|----------------------------|----------------------|------------|--------------------------------|---------------------|------------|
| | Long tons | Board feet | | Long tons | Board feet |
| Houston: 11 ships..... | 9.7 | | 18.0 | 0.54 | |
| Port Arthur: 13 ships..... | 13.7 | 7,600 | 14.4 | .95 | 530 |
| New Orleans: | | | | | |
| Line No. 1, 45 ships..... | 10.6 | 5,600 | 17.0 | .63 | 330 |
| Line No. 2, 39 ships..... | 9.9 | 5,600 | 17.0 | .58 | 330 |
| Average..... | 10.1 | 5,600 | 17.0 | .59 | 330 |
| Mobile: | | | | | |
| Line No. 1, 17 ships..... | 13.4 | 7,600 | 15.2 | .88 | 500 |
| Line No. 2, 31 ships..... | 13.1 | 7,600 | 15.7 | .84 | 480 |
| Line No. 3, 26 ships..... | 12.3 | 6,800 | 15.7 | .78 | 430 |
| Line No. 4, 26 ships..... | 9.6 | 5,700 | 14.0 | .69 | 400 |
| Average..... | 12.0 | 6,800 | 15.1 | .79 | 450 |
| Savannah: 11 ships..... | 9.2 | | 17.2 | .53 | |
| Charleston: 14 ships..... | 7.5 | | 23.1 | .32 | |
| Norfolk and Newport News: | | | | | |
| Line No. 1, 18 ships..... | 18.8 | | 22.7 | .83 | |
| Line No. 2, 10 ships..... | 18.3 | | 22.0 | .83 | |
| Line No. 3, 8 ships..... | 18.0 | 10,000 | 22.0 | .82 | 450 |
| Line No. 4, 17 ships..... | 16.1 | | 22.1 | .73 | |
| Average..... | 18.2 | | 22.2 | .82 | |

Loading Steel and Steel Products

Table 6 presents the productivity of longshore labor in loading steel and steel products such as rails, pipes, etc., including tin plate. Data for these commodities were secured for the ports of Houston, Mobile, Newport News, Baltimore, Philadelphia, and New York.

Most of the steel and steel products are loaded directly from open cars which are switched to the apron of the pier alongside the ship directly opposite the hatch into which the steel is to be loaded. Ship's gear is used almost exclusively in all the ports mentioned. The productivity of labor expressed in terms of long tons per gang per hour varies from 7.8 long tons of rails loaded in Houston to 32.7 long tons of tin plate loaded in Baltimore. The man-hour productivity varies from 0.59 long ton per man per hour of miscellaneous steel products of all sizes loaded in New York to 2.1 long tons for uniform size billets loaded in Newport News.

TABLE 6.—PRODUCTIVITY OF LABOR IN THE LOADING OF STEEL AND STEEL PRODUCTS

| Port, commodity, and line number | Output per gang-hour (long tons) | Average number of men per gang | Output per man-hour (long tons) | Port, commodity, and line number | Output per gang-hour (long tons) | Average number of men per gang | Output per man-hour (long tons) |
|---------------------------------------|----------------------------------|--------------------------------|---------------------------------|-----------------------------------|----------------------------------|--------------------------------|---------------------------------|
| Houston: Rails, 9 ships | 7.8 | 9.0 | 0.87 | Baltimore—Continued. | | | |
| Mobile: | | | | Steel sheets— | | | |
| Pipe, 15 ships | 20.7 | 15.9 | 1.30 | Line No. 1, 14 ships | 24.5 | 18.1 | 1.35 |
| Iron and steel, 12 ships | 14.5 | 19.5 | .74 | Line No. 2, 14 ships | 22.4 | 22.6 | .99 |
| Newport News: Steel billets, 17 ships | 31.1 | 14.8 | 2.10 | Line No. 3, 13 ships | 14.9 | 17.3 | .86 |
| Baltimore: | | | | Average | 20.2 | 18.5 | 1.09 |
| Rails— | | | | Wire rods, Line No. 1, 14 ships | 25.7 | 19.2 | 1.34 |
| Line No. 1, 6 ships | 28.2 | 15.1 | 1.87 | Mixed steel products, 13 ships | 16.2 | 18.9 | .86 |
| Line No. 2, 13 ships | 26.6 | 15.2 | 1.75 | Philadelphia: | | | |
| Line No. 3, 14 ships | 25.2 | 15.1 | 1.67 | Rails, 20 ships | 15.2 | 14.8 | 1.03 |
| Line No. 4, 14 ships | 22.8 | 18.1 | 1.26 | Pipe, 20 ships | 14.9 | 14.2 | 1.05 |
| Average | 26.3 | 15.8 | 1.66 | Miscellaneous steel— | | | |
| Pipe— | | | | Line No. 1, 16 ships | 21.1 | 14.2 | 1.49 |
| Line No. 1, 9 ships | 27.7 | 16.0 | 1.73 | Line No. 2, 25 ships | 21.8 | 15.0 | 1.45 |
| Line No. 2, 13 ships | 25.0 | 17.5 | 1.43 | Line No. 3, 23 ships | 18.6 | 14.5 | 1.28 |
| Line No. 3, 24 ships | 21.6 | 18.0 | 1.20 | Line No. 4, 20 ships (sheets) | 14.6 | 15.1 | .97 |
| Average | 24.3 | 17.4 | 1.40 | Line No. 5, 23 ships | 20.9 | 25.5 | .82 |
| Tin plate— | | | | Average | 19.2 | 15.0 | 1.28 |
| Line No. 1, 13 ships | 30.6 | 17.2 | 1.78 | Tin plate, 20 ships | 25.0 | 20.2 | 1.24 |
| Line No. 2, 14 ships | 31.3 | 18.7 | 1.67 | New York: | | | |
| Line No. 3, 24 ships | 34.5 | 22.4 | 1.54 | Steel products, 12 ships | 11.6 | 19.7 | .59 |
| Line No. 4, 14 ships | 31.6 | 23.1 | 1.37 | Pipe and steel products, 22 ships | 21.5 | 16.0 | 1.35 |
| Average | 32.7 | 21.2 | 1.54 | | | | |

Discharging Individual Commodities

Discharging Raw Sugar

RAW sugar from Cuba, Porto Rico, the Hawaiian Islands, and the Philippine Islands comes to this country in full-ship cargoes. The sugar is discharged chiefly at the piers of the sugar refineries, although occasionally it is also discharged at a general cargo pier. Data for the productivity of longshore labor in discharging raw sugar have been secured for the following ports: San Francisco, Galveston, New Orleans, Savannah, Baltimore, Philadelphia, Boston, and New York. Ship's gear and rope slings are used in all ports for the purpose of transferring the sugar from the hold of the ship to the apron of the pier. But the equipment on the pier and the methods used in transferring the sugar from the ship's side to the refinery proper or to the pile in the shed of the pier vary greatly from one refinery to another. Table 7 gives the statistics of discharging raw sugar expressed in long tons and in bags handled per gang per hour and per man per hour. The productivity per gang per hour is shown to vary from an average of 40.0 long tons discharged at the general cargo piers in New Orleans to an average of 80.4 long tons discharged at the two refineries in San Francisco. The man-hour output varies from 1.35 long tons at a general cargo pier in Galveston to 3.45 long tons at the two refineries in San Francisco.

The two outstanding cases of high productivity in discharging raw sugar, measured in terms of either gang-hour or man-hour output, are

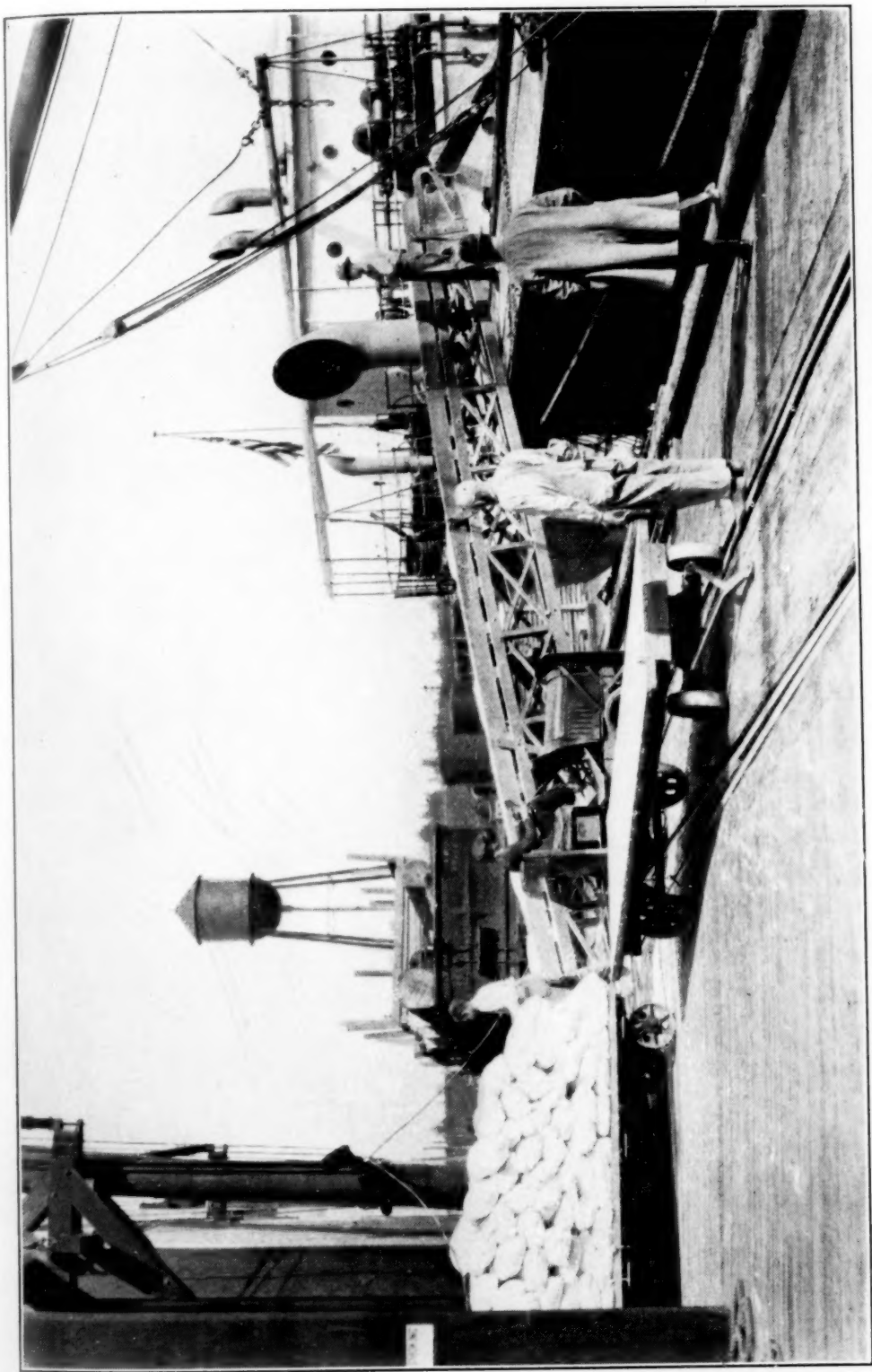


FIGURE 3.—LOADING FLOUR WITH PORTABLE BELT CONVEYOR AND HATCH CHUTES IN PORTLAND, OREG.



FIGURE 4.—PRESENT METHOD OF DISCHARGING RAW SUGAR AT A REFINERY IN SAN FRANCISCO

to be found in refinery No. 1 in San Francisco and in refinery No. 1 in New York. Both refineries have recently introduced new equipment and new methods of transferring the raw sugar from the apron of their pier to the refinery proper, with an increased productivity of longshore labor resulting directly from these changes in the pier equipment.

The refinery in San Francisco discharges Hawaiian sugar only, which comes in bags of 130 to 135 pounds each. The "union" or "married" fall, operated by one winchman, is used to transfer the sling loads from the hold of the ship to a large movable platform erected on the apron of the pier. Each sling is made up of 16 to 17 bags, thus averaging about 1 long ton per load. Previous to the installation of the new system hand trucks were used to transfer the sugar from the platform on the pier to the scales and thence to the refinery proper or to the warehouse. This method is still used in several refineries in the country. With the old system the average output of a gang consisting of 34 longshoremen was about 1,200 bags or 70 long tons per gang per hour, and about 35 bags or 2.0 long tons per man per hour.

Under the present system the platform on which the sugar is landed from the ship is placed on the second floor of the pier, which is at about the same level as the deck of the ship, thus enabling the winchmen to see where the sling load is landed and dispensing with the services of a signal man. During the process of unloading, the platform is attached to a portable conveyor equipped with two endless belts, each passing over a scale for the purpose of weighing the bags. The individual bags are shoved by hand from the platform to the two belts and their weights are determined as they pass over the scales. From the conveyor the bags fall down into an opening in the floor leading to an inclosed system of conveyors which carry the bags from the pier either directly into the melting section of the refinery or to the warehouse. This method of discharging the sugar, although exceedingly simple from a technical point of view, seems to prove very effective so far as the productivity of labor is concerned. With a gang consisting of 21 longshoremen, the average output for 1926 was 1,681 bags or 94.7 long tons per gang per hour and 80.1 bags or 4.51 long tons per man per hour, which is the highest average productivity for any one commodity loaded or discharged in bags or other containers. From individual ships a maximum of 2,500 bags of sugar has been discharged per gang per hour, the rate of discharging being limited only by the capacity of the winches and the ability of the men in the hold to make up the sling loads. This method of transferring the sugar from the pier to the refinery is illustrated in Figure 4, showing the platform on which the sugar is landed from the ship, the portable conveyor with the two endless belts passing over two scales, and the opening in the floor leading to the system of inclosed conveyors which carry the sugar to the refinery.

The New York refinery has also increased the productivity by a change in the equipment used on the pier which took place very recently. The old hand-truck system, which was similar to the old system used in San Francisco, has now given way to a system of electric platform trucks. Ship's gear is used to transfer the sling loads containing four to five bags of Cuban sugar from the hold to

the deck of the ship, and electric cranes, which travel on rails on the roof of the pier shed, lift the sling loads from the deck of the ship and load them on the electric trucks. These carry the sugar first to the scales to be weighed and thence either to the pile or to the melting dump of the refinery. Under the old system, with a gang of 29 long-shoremen, the average output for 1923 was 59.2 long tons or 408 Cuban bags per gang per hour and 2.04 long tons or 14.1 Cuban bags per man per hour. With the new equipment and with a gang of 22 men the average output for 1928, given in Table 7, was 87.7 long tons or 597 Cuban bags per gang per hour, and 3.99 long tons or 27.1 bags per man per hour, an increase of nearly 100 per cent if measured in terms of productivity per man per hour.

TABLE 7.—PRODUCTIVITY OF LABOR IN THE DISCHARGING OF RAW SUGAR

| Port, and line number | Output per gang-hour | | Average number of men per gang | Output per man-hour | |
|-------------------------------------|----------------------|----------------------|--------------------------------|---------------------|-------------------|
| | Long tons | Bags | | Long tons | Bags |
| San Francisco—refinery: | | | | | |
| Line No. 1, 103 ships..... | 94.7 | ¹ 1,681.0 | 21.0 | 4.51 | ¹ 80.1 |
| Line No. 2, 53 ships..... | 59.6 | ¹ 1,101.0 | 26.6 | 2.24 | ¹ 41.3 |
| Average..... | 80.4 | ¹ 1,442.0 | 23.3 | 3.45 | ¹ 61.9 |
| Galveston—pier: 27 ships..... | 49.2 | ² 338.6 | 36.4 | 1.35 | ² 9.3 |
| New Orleans—refinery: 72 ships..... | 55.2 | ² 386.0 | 23.0 | 2.40 | ² 16.8 |
| New Orleans—pier: | | | | | |
| Line No. 2, 36 ships..... | 45.0 | ² 315.0 | 23.0 | 1.96 | ² 13.7 |
| Line No. 3, 12 ships..... | 36.3 | ² 254.1 | 21.0 | 1.73 | ² 12.1 |
| Line No. 4, 22 ships..... | 34.2 | ² 239.4 | 23.0 | 1.49 | ² 10.4 |
| Average..... | 40.0 | ² 280.0 | 22.5 | 1.78 | ² 12.5 |
| Savannah—refinery: 40 ships..... | 56.6 | ³ 396.0 | 33.0 | 1.72 | ² 12.0 |
| Baltimore—refinery: | | | | | |
| Line No. 1, 43 ships..... | 49.4 | ³ 348.0 | 29.1 | 1.70 | ² 12.0 |
| Line No. 2, 42 ships..... | 36.2 | ¹ 611.0 | 29.0 | 1.25 | ¹ 21.1 |
| Average..... | 43.1 | | 29.0 | 1.48 | |
| Philadelphia—refinery: | | | | | |
| Line No. 1, 68 ships..... | 66.4 | ³ 449.0 | 35.0 | 1.90 | ² 12.8 |
| Line No. 2, 7 ships..... | 48.1 | ³ 405.0 | 34.0 | 1.41 | ² 11.9 |
| Line No. 3, 19 ships..... | 46.9 | ³ 317.0 | 34.0 | 1.38 | ² 9.3 |
| Line No. 4, 29 ships..... | 43.9 | ⁴ 758.0 | 34.0 | 1.29 | ⁴ 22.3 |
| Average..... | 55.7 | | 34.6 | 1.61 | |
| New York—refinery: | | | | | |
| Line No. 1, 43 ships..... | 87.7 | ² 597.0 | 22.0 | 3.99 | ² 27.1 |
| Line No. 2, 13 ships..... | 66.7 | ² 467.0 | 25.0 | 2.67 | ² 18.7 |
| Line No. 3, 14 ships..... | 62.6 | ² 438.0 | 24.4 | 2.57 | ² 18.0 |
| Line No. 4, 36 ships..... | 55.7 | ³ 601.0 | 23.9 | 2.33 | ² 25.1 |
| Line No. 5, 23 ships..... | 58.0 | ⁴ 769.0 | 25.0 | 2.32 | ⁴ 30.8 |
| Line No. 6, 14 ships..... | 55.3 | ² 387.0 | 24.1 | 2.30 | ² 16.1 |
| Line No. 7, 15 ships..... | 45.0 | ⁴ 741.0 | 21.9 | 2.05 | ⁴ 33.9 |
| Line No. 8, 65 ships..... | 59.2 | ² 408.0 | 29.0 | 2.04 | ² 14.1 |
| Average..... | 63.9 | | 23.5 | 2.72 | |
| Boston—refinery: | | | | | |
| Line No. 1, 23 ships..... | 71.7 | ³ 595.3 | 29.0 | 2.47 | ² 20.5 |
| Line No. 2, 22 ships..... | 71.0 | ² 486.4 | 29.0 | 2.45 | ² 16.8 |
| Line No. 3, 47 ships..... | 56.4 | ² 395.1 | 27.8 | 2.03 | ² 14.2 |
| Average..... | 63.8 | | 28.4 | 2.25 | |

¹ Hawaiian sugar, about 135 pounds to the bag.² Cuban sugar, about 330 to 350 pounds to the bag.³ Porto Rican sugar, about 250 to 270 pounds to the bag.⁴ Philippine sugar, about 135 pounds to the bag.

Discharging Coffee

Table 8 shows the labor productivity in discharging coffee in Seattle, Cristobal (Canal Zone), Galveston, New Orleans, Philadelphia, Boston, and New York. Most of the coffee discharged in these ports comes in parcel lots, together with parcel lots of other South American products such as linseed, hides, quebracho, etc., although occasionally, especially in New Orleans and Cristobal, coffee is discharged in full-ship cargo.

The coffee comes in bags of an average weight of 135 pounds, and it is not a particularly hard commodity to handle. The principal difficulty, however, in discharging coffee is due to the need of sorting the bags according to the numerous marks which appear on them; this has to be done on the pier during the operation of discharging. It is therefore impracticable to use any kind of equipment for the transfer of the bags from the apron of the pier to the pile in the shed. The sorting also slows down the operations of the ship's gear. Each bag has to be handled separately and in most ports the hand truck still proves the most effective piece of equipment used in this connection. In some ports, as for instance New Orleans or Boston, the coffee is discharged onto large 4-wheel trucks which are then moved into the shed of the pier, where the sorting is done by a special gang of sorters who remove the bags from the truck to the respective piles a bag at a time. This necessitates the use of a much larger gang than is customary in the port for the handling of any other commodity. As many as 39 men per gang are used in New Orleans, while 47 men are used in Cristobal. The productivity per gang per hour varies from 18.6 long tons for Galveston to 39.3 long tons for New Orleans, while the productivity per man per hour varies from 0.46 long ton for Cristobal to 1.25 long tons for Philadelphia. Considering that this is a uniform cargo in comparatively small bags, the productivity is very small, particularly when contrasted with the handling of raw sugar, which comes in similar or even larger bags. Not until a system has been devised by which the bags will be loaded into the ship, already sorted, or until a better system of sorting is developed, is there any chance of increasing the productivity of labor in discharging coffee.

TABLE 8.—PRODUCTIVITY OF LABOR IN THE DISCHARGING OF COFFEE

| Port, and line number | Output per gang-hour | | Average number of men per gang | Output per man-hour | |
|-------------------------|----------------------|------------------|--------------------------------|---------------------|------------------|
| | Long tons | Bags | | Long tons | Bags |
| Seattle: 7 ships | 25.9 | 430.0 | 24.9 | 1.04 | 17.7 |
| Cristobal (Canal Zone): | | | | | |
| Line No. 1, 9 ships | 21.2 | (¹) | 45.2 | .47 | (¹) |
| Line No. 2, 10 ships | 22.3 | (¹) | 49.4 | .45 | (¹) |
| Average | 21.7 | (¹) | 47.2 | .46 | (¹) |
| Galveston: 8 ships | 18.6 | 313.4 | 18.4 | 1.01 | 17.0 |
| New Orleans: 22 ships | 39.3 | 666.0 | 39.0 | 1.01 | 17.0 |
| Philadelphia: 18 ships | 34.8 | 571.0 | 27.9 | 1.25 | 20.4 |
| Boston: 24 ships | 31.1 | 528.0 | 27.1 | 1.15 | 19.4 |
| New York: | | | | | |
| Line No. 1, 24 ships | 34.9 | 597.0 | 28.7 | 1.22 | 20.8 |
| Line No. 2, 12 ships | 32.5 | 552.0 | 28.7 | 1.13 | 19.2 |
| Line No. 3, 13 ships | 25.2 | 428.0 | 31.9 | .79 | 13.4 |
| Line No. 4, 13 ships | 21.6 | 372.0 | 33.0 | .65 | 11.3 |
| Average | 27.8 | 474.0 | 30.9 | .90 | 15.3 |

¹ Not available.

Discharging Newsprint Paper

Newsprint paper is discharged in nearly every major port in the United States. Most of the paper comes from Canada in full cargo lots, although some paper also comes from Europe with wood pulp and other commodities. Table 9 shows the productivity of labor in discharging paper in Los Angeles, Galveston, Houston, New Orleans, Norfolk, and Newport News, Baltimore, Philadelphia, and New York. The paper is discharged at the general cargo piers by means of the ship's gear, and is removed to the warehouse either on long hand trucks or by electric trucks equipped with a special device for stacking the paper in piles. The highest gang-hour productivity shown in Table 9 is for the port of Philadelphia, with an output of 34.4 long tons, while the highest man-hour output is shown for New York, with an average of 1.94 long tons. It is in New York that the electric trucks are used in discharging and stacking the paper. It must be emphasized that the figures for New York refer to the first year of the use of these trucks for discharging and stacking paper.

TABLE 9.—PRODUCTIVITY OF LABOR IN THE DISCHARGING OF NEWSPRINT PAPER

| Port | Output per gang-hour (long tons) | Average number of men per gang | Output per man-hour (long tons) | Port | Output per gang-hour (long tons) | Average number of men per gang | Output per man-hour (long tons) |
|---|----------------------------------|--------------------------------|---------------------------------|----------------------------|----------------------------------|--------------------------------|---------------------------------|
| Los Angeles: 26 ships----- | 30.2 | 18.0 | 1.68 | Baltimore: 6 ships----- | 23.2 | 17.7 | 1.31 |
| Galveston: 9 ships----- | 20.3 | 17.8 | 1.14 | Philadelphia: 8 ships----- | 34.4 | 20.9 | 1.65 |
| Houston: 8 ships----- | 18.3 | 17.3 | 1.06 | New York: 12 ships----- | 29.2 | 15.1 | 1.94 |
| New Orleans: 13 ships----- | 23.6 | 19.0 | 1.24 | | | | |
| Norfolk and Newport News: 11 ships----- | 25.0 | 19.4 | 1.29 | | | | |

Discharging Lumber

Large quantities of lumber in full-ship cargoes are discharged in San Francisco, Los Angeles, Baltimore, Philadelphia, Boston, and New York. Table 10 shows the labor productivity of longshoremen in discharging lumber in these ports, measured in terms of board feet discharged per gang-hour and per man-hour. With the exception of a single line in San Francisco which uses a system of two gantry cranes for this operation, and a single line in New York which is using a system of movable electric cranes, all lines presented in the table use the ship's gear exclusively. A large proportion of the lumber is discharged either at the lumber mills or at special lumber piers and the stevedores merely handle the lumber from the ship to the apron of the pier. The lumber is then taken away from the apron and stored by means of special gantry cranes, Ross carriers, or other lumber-pier equipment. Except in cases where the lumber is delivered directly to a railroad car, a lighter, or a regular pier (in which cases a complete gang is used), the data for discharging refer to the operation of the longshoremen only, which is usually termed "ship's tackle" and is so designated in the table.

The lumber discharged in San Francisco and in Los Angeles is loaded in comparatively large lumber schooners especially devised

for carrying this kind of cargo. The labor productivity in discharging lumber in these ports is therefore considerably higher than that for the eastern ports. But even the high productivity of these two ports is very small in contrast with the productivity of the special San Francisco line which is using the gantry-crane system for discharging lumber. The high productivity of this company, however, is due not so much to the equipment as to the system used in stowing the lumber when loading the ship. The company loads and discharges its own lumber. When loading, the lumber is arranged into units of uniform size and especially improvised iron hooks are placed around each unit before loading it into the ship. The iron hooks are left with the unit, so that in discharging the cargo the hold men merely attach the lifting chains of the crane to the iron hooks on the unit of lumber. This system eliminates the necessity of stowing the individual pieces of lumber when loading and of making up the sling loads when discharging. The make-up of the individual units of lumber and the two cranes in process of discharging the lumber from the ship are shown in Figure 5.

The average output in discharging lumber by this system is shown to be 68,800 board feet per crane per hour, and 5,970 board feet per man per hour. The man-hour productivity of this system of discharging lumber is nearly three times as large as for the line with the highest man-hour productivity attained by using the ship's gear and by stowing the lumber by individual pieces. The principal obstacles to the utilization of the unit system for intercoastal lumber are due to the fact that in using the unit system a large percentage of the cargo space is wasted in the process of stowing the units. Also, the lumber when stowed in units is not so compact as when stowed by the piece and there is danger of the lumber shifting in stormy weather.

In the eastern ports the average productivity per gang per hour varies from 9,200 board feet discharge at the general cargo piers in Boston to 15,400 board feet discharged by "ship's tackle" in New York. The man-hour productivity of eastern ports varies from an average of 560 board feet for the same lines in Boston to 1,050 board feet discharged "ship's tackle" in New York.

TABLE 10.—PRODUCTIVITY OF LABOR IN THE DISCHARGING OF LUMBER

| Port, and line number | Output per gang-hour (board feet) | Average number of men per gang | Output per man-hour (board feet) |
|--|---|---|--|
| San Francisco—ship's tackle: | | | |
| Line No. 1, 19 ships..... | 31,480 | 15.3 | 2,050 |
| Line No. 2, 10 ships..... | 27,330 | 15.5 | 1,760 |
| Line No. 3, 22 ships..... | 34,100 | 24.4 | 1,390 |
| Line No. 4, 18 ships..... | 24,400 | 19.9 | 1,230 |
| Average..... | 28,950 | 16.5 | 1,650 |
| Gantry crane—unit system of stowage, 31 ships..... | 68,800 | 11.5 | 5,970 |
| Los Angeles—ship's tackle: | | | |
| Line No. 1, 20 ships..... | 31,430 | 16.1 | 1,950 |
| Line No. 2, 20 ships..... | 24,570 | 12.7 | 1,940 |
| Line No. 3, 19 ships..... | 31,490 | 16.7 | 1,880 |
| Line No. 4, 18 ships..... | 24,010 | 14.1 | 1,710 |
| Line No. 5, 23 ships..... | 24,870 | 15.7 | 1,580 |
| Average..... | 26,630 | 14.7 | 1,810 |

TABLE 10.—PRODUCTIVITY OF LABOR IN THE DISCHARGING OF LUMBER—Contd.

| Port, and line number | Output per gang-hour (board feet) | Average number of men per gang | Output per man-hour (board feet) |
|---|---|---|--|
| Baltimore—ship's tackle and railroad cars: | | | |
| Line No. 1, 11 ships..... | 15,900 | 18.1 | 880 |
| Line No. 2, 15 ships..... | 11,200 | 17.2 | 650 |
| Average..... | 14,500 | 17.9 | 810 |
| Philadelphia—ship's tackle and railroad cars: | | | |
| Line No. 1, 11 ships..... | 13,700 | 16.7 | 820 |
| Line No. 2, 12 ships..... | 13,600 | 17.8 | 760 |
| Line No. 3, 15 ships..... | 12,600 | 16.9 | 750 |
| Line No. 4, 9 ships..... | 12,000 | 17.0 | 710 |
| Line No. 5, 9 ships..... | 9,900 | 16.0 | 620 |
| Line No. 6, 38 ships..... | 9,300 | 15.0 | 620 |
| Average..... | 11,700 | 16.5 | 710 |
| Boston: | | | |
| Ship's tackle— | | | |
| Line No. 1, 17 ships..... | 14,400 | 15.7 | 920 |
| Line No. 2, 18 ships..... | 12,900 | 15.7 | 820 |
| Line No. 3, 22 ships..... | 11,500 | 15.4 | 750 |
| Average..... | 13,200 | 15.6 | 850 |
| Pier and railroad cars— | | | |
| Line No. 1, 54 ships..... | 9,200 | 15.6 | 590 |
| Line No. 2, 7 ships..... | 9,300 | 17.2 | 540 |
| Average..... | 9,200 | 16.5 | 560 |
| New York: | | | |
| Ship's tackle— | | | |
| Line No. 1, 47 ships..... | 16,300 | 14.6 | 1,120 |
| Line No. 2, 25 ships..... | 16,100 | 14.5 | 1,110 |
| Line No. 3, 15 ships..... | 15,100 | 14.4 | 1,050 |
| Line No. 4, 24 ships..... | 15,000 | 14.9 | 1,010 |
| Line No. 5, 15 ships..... | 14,400 | 14.6 | 990 |
| Line No. 6, 18 ships..... | 13,500 | 14.8 | 910 |
| Line No. 7, 13 ships..... | 12,600 | 14.7 | 860 |
| Average..... | 15,400 | 14.6 | 1,050 |
| Pier and railroad cars— | | | |
| Line No. 1, 25 ships..... | 14,800 | 20.0 | 740 |
| Line No. 2, 14 ships..... | 13,400 | 18.6 | 720 |
| Line No. 3, 15 ships..... | 11,700 | 16.9 | 690 |
| Line No. 4, 9 ships..... | 12,400 | 18.1 | 660 |
| Line No. 5, 20 ships..... | 12,700 | 18.8 | 680 |
| Line No. 6, 17 ships..... | 12,300 | 18.3 | 670 |
| Average..... | 13,000 | 18.6 | 700 |

Discharging Bananas

Table 11 gives the average productivity of labor in discharging full cargoes of bananas in New Orleans, Mobile, Charleston, Baltimore, Philadelphia, Boston, and New York. There is more special equipment now in use in the several ports for the purpose of discharging bananas than for any other single commodity. The piece of equipment most commonly used is the pocket belt conveyor. In New Orleans and in Mobile the conveyors constitute a permanent feature of the banana piers. Each belt is operated from an electric tower which travels on rails along the entire length of the pier.

Figure 6 shows the pier side of the operation with two men stationed at each conveyor to transfer the stems of bananas from the pockets of the conveyor to an endless belt which runs along the entire length of the pier. While traveling on this belt the bananas are classified by

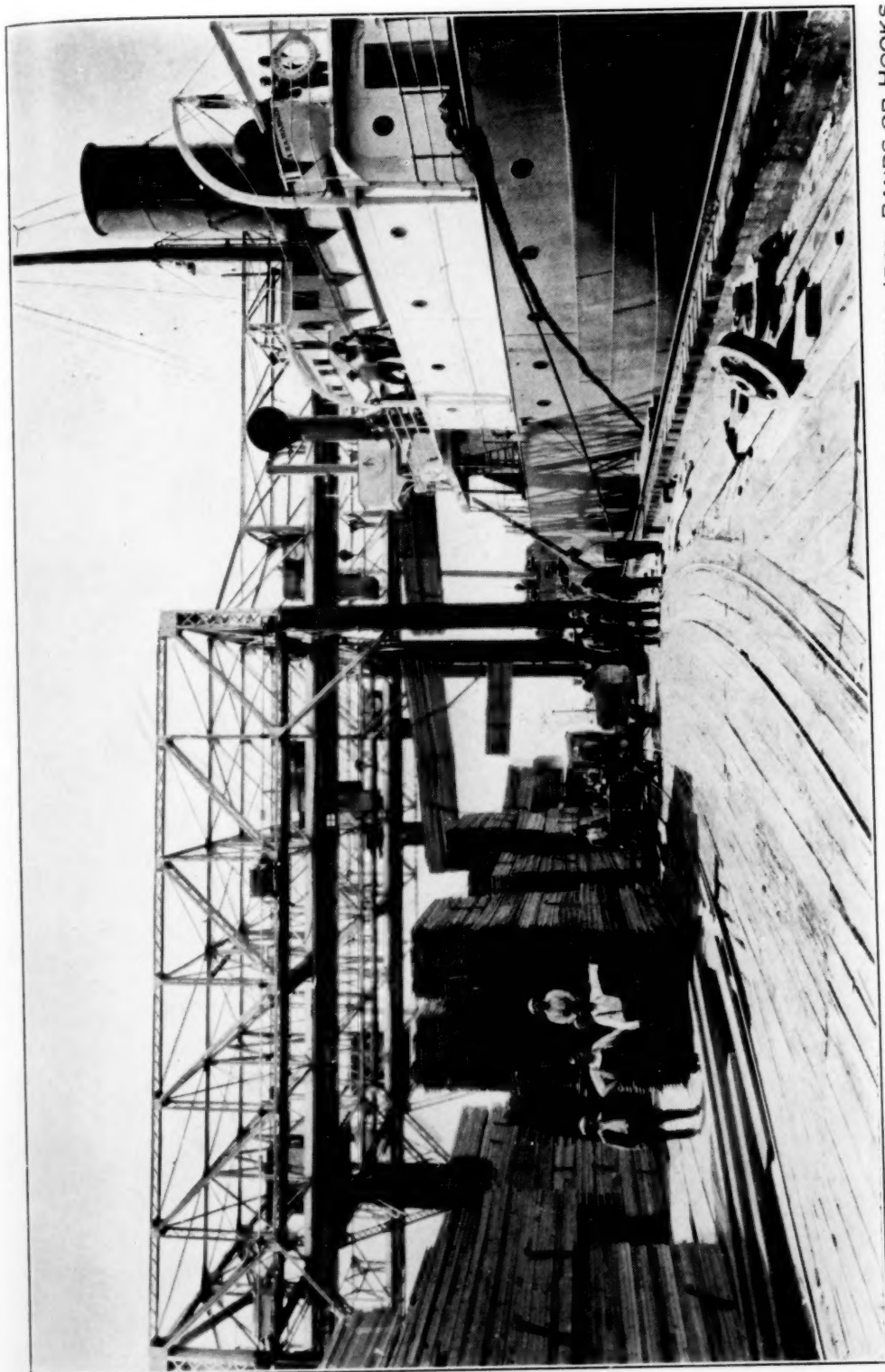


FIGURE 5.—DISCHARGING LUMBER LOADED IN UNITS AND HELD TOGETHER BY SPECIAL IRON BANDS OR HOOKS
IN SAN FRANCISCO

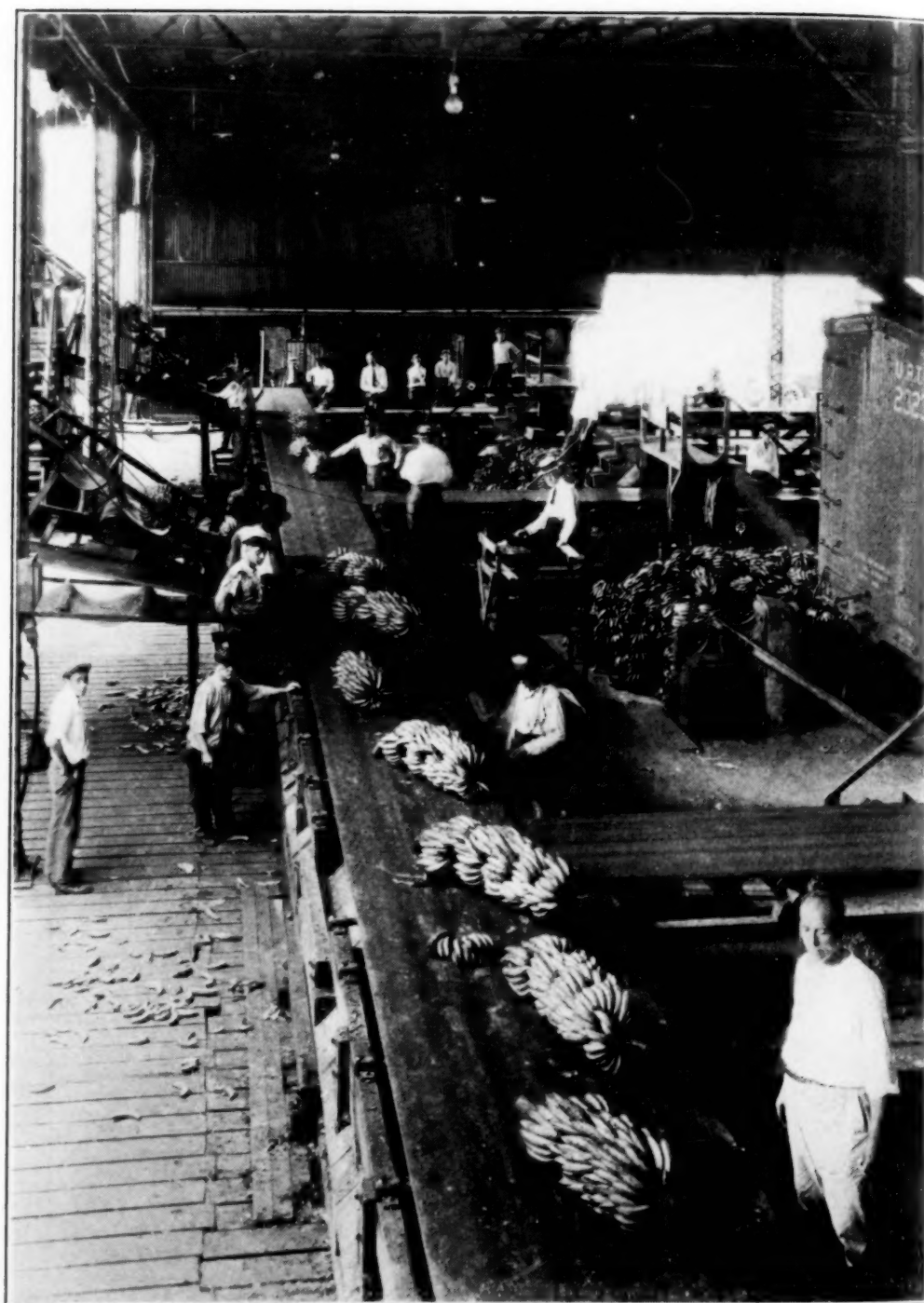


FIGURE 6.—DISCHARGING BANANAS WITH BELT CONVEYOR IN NEW ORLEANS. PIER VIEW

the degree of ripeness and by size (determined by the number of "hands" on the stem) and are then lifted over to one of the several other belts which run at right angles to the main longitudinal belt. Alongside each of these belts freight cars are placed, into which the bananas are removed and stowed by man power.

In the other ports portable belt conveyors are used, which are lowered into the hatch with the help of the ship's gear, and are operated by electricity supplied by a portable motor on the pier. The portable conveyors are much smaller than those used in New Orleans or in Mobile and do not extend beyond the opening of the hatch. From these the bananas are transferred to the side of the ship and thence to the apron of the pier by means of portable endless belt conveyors, which are so rigged as to make a complete unit with the pocket conveyor in the hatch. From the apron of the pier the stems or bunches of bananas are carried away by man power and are carefully stowed into box cars, stationed inside the shed of the pier. In New York and in Baltimore a large proportion of the bananas is loaded into box cars on floats, and gravity rollers are often used to transfer the bananas from the side ports of the ship to their destination in the car. In Boston, New York, Baltimore, and Philadelphia a considerable proportion of the cargo is auctioned off on the pier and is loaded directly into trucks at the apron of the pier, thus eliminating the need of stowing the bananas in the cars.

The statistics on labor productivity given in Table 11 cover all the workers engaged in the process of handling the bananas, including the car stowers. The total number of man-hours used in the entire process was divided by the total number of conveyor-hours in operation, in order to determine the average number of men used per conveyor-hour. The labor productivity is given in terms of "stems" or bunches handled per hour, as the weight of the bunches is too variable to permit its use as a unit of measurement for the handling of bananas. The average output of discharging bananas varies from 465 bunches per conveyor per hour for Baltimore to 1,833 bunches for New Orleans, and from 9.66 per man per hour for Charleston (discharging partly by hand and partly by conveyors) to 20.06 per man per hour for Philadelphia. The lower man-hour productivity in New Orleans and Mobile in connection with a higher conveyor-hour output is due to the fact that in these two ports nearly all the bananas are loaded into cars, while in the eastern ports a large percentage of the bananas is loaded into trucks requiring no stowage.

An interesting comparison of labor productivity in handling bananas is offered by the change in the method of handling bananas in the port of New York. In 1925, before the conveyor system was introduced, the average productivity for 66 ships handled by one line was 561 stems per gang per hour, or 12.42 stems per man per hour. With the conveyors in operation in 1928, the average productivity for 97 ships handled by the same line was 776.5 stems per conveyor per hour, or 18.37 stems per man per hour, an increase of nearly 50 per cent in the man-hour output, which can be directly attributed to the use of pier equipment.

TABLE 11.—PRODUCTIVITY OF LABOR IN THE DISCHARGING OF BANANAS

| Port | Output per gang or conveyer or hour (stems) | Average number of men per gang or conveyer | Output per man-hour (stems) |
|-----------------------------|---|--|-----------------------------|
| New Orleans: | | | |
| Line No. 1, 165 ships..... | 2,299.4 | 158.8 | 14.48 |
| Line No. 2, 313 ships..... | 1,663.2 | 124.5 | 13.36 |
| Average..... | 1,832.8 | 133.7 | 13.71 |
| Mobile, 166 ships..... | 1,369.0 | 100.0 | 13.69 |
| Charleston, 53 ships..... | (1) | (2) | 9.66 |
| Baltimore, 69 ships..... | 465.0 | 32.0 | 14.53 |
| Philadelphia, 94 ships..... | 806.0 | 40.2 | 20.06 |
| Boston, 102 ships..... | 672.1 | 42.7 | 13.39 |
| New York, 97 ships..... | 776.5 | 42.3 | 18.37 |

¹ Not available; the discharging was done partly by a belt conveyer, but chiefly by hand power.

Age Limits in Industry in Maryland and California

IN JANUARY, 1930, the California Department of Industrial Relations published a study of middle-aged and older workers in California, which dealt with the subject in a general way and which was followed by a more detailed study, recently published, based on data as of March, 1930. In the spring of 1930, the Maryland Commissioner of Labor and Statistics undertook a study of the same subject in his State, the results of which have been issued under the title of "The Older Worker in Maryland." While these two studies cover in part the same ground, each has its own distinguishing features, and each supplements the other in important particulars.

The Older Worker and the Age Level in Maryland Industries

THE Maryland study had two distinct purposes: First, to learn whether Maryland employers set maximum age limits for hiring, and, if this is so, to find how general the practice is and at what ages the limits are set; and, second, to assemble, as a basis for further study and consideration, if necessary, certain definite findings in regard to a condition which, if proved existent, would create a social and economic problem of no little weight.

Policy as to Age Limits

Questionnaires were sent out to 1,063 establishments in Baltimore and in the State outside the city, and replies to these were received from 858 active business organizations with not less than 173,724 employees. Of these, 772 organizations, employing 113,498, or 65.3 per cent of the total number of workers covered, set no age limits; 32, with 7,513 employees (4.3 per cent of the total) had no definite age limit but did have a tendency toward employing younger workers or a preference for doing so; and 54 with 52,713 employees (30.3 per cent) had definite age limits. The industrial distribution of the organizations setting age limits or having a tendency to employ younger workers, with the number of employees in each group, was as follows:

TABLE 1.—INDUSTRY DISTRIBUTION AND LABOR FORCE OF PLANTS SETTING AGE LIMITS FOR NEW EMPLOYEES

| Industry | Number of establishments | Number of employees |
|-------------------------------------|--------------------------|---------------------|
| Manufacturing..... | 45 | 15,885 |
| Wholesale..... | 3 | 113 |
| Retail..... | 11 | 3,226 |
| Railroads and public utilities..... | 11 | 38,947 |
| Laundries..... | 5 | 235 |
| Automobile sales and service..... | 4 | 204 |
| Building..... | 2 | 19 |
| Banks..... | 3 | 154 |
| Mines..... | 2 | 1,443 |

While the manufacturing industries lead in the number of establishments involved, it is seen that the railroads and public utilities are by far the most important in respect to the number of employees concerned. The age limits set in the various establishments differed considerably.

While individual replies indicated both lower and higher age limits at the time of employment, the most frequently given limit for both men and women was 45 years, and in each of 17 replies the specified age limit for women was lower than that indicated for men. In each of two cases, however, the age limit given for men was lower than that indicated for women. The lowest limit specified for men was 23 years, occurring in the case of an organization in which inexperience was a desirable qualification for employment. The lowest limit specified for women was 30 years.

Reasons for Setting Age Limits

The reasons assigned for refusing to employ workers who had passed a certain fixed age fell, for the most part, into four groups: The nature of the work to be done, the lesser desirability of the older worker, organization policies, and the maintenance of benefit plans, such as retirement pensions, group insurance, and the like. As to the first, it is obvious that unusually heavy or hazardous work is not suited to the older worker. Employers in the second group stated that older workers are less active and less adaptable, that their employment slows down production and tends to increase the accident rate, that they are less efficient than their juniors, and that the consideration which their age renders necessary is often burdensome. The employers setting age limits as a matter of organization policy assigned a number of reasons:

In a number of cases the employers attributed their adoption of age limits to the desire for "new blood," to their desire to balance the personnel, to their policies of filling positions by promotion within the organization, of training inexperienced workers in their own establishments for higher positions, and of retaining those posts which are peculiarly suitable for older workers for the men and women who become aged in their service.

The adoption of beneficial features, such as retirement pensions, is held by the author of the report to be beyond doubt a major cause for the adoption of age limits on hiring. This is particularly true, it is stated, of the larger organizations, especially the railroads and public utilities. No figures are given as to the number of employees, however, in organizations having and not having pension plans, so that it is not possible to test the relative effectiveness of this cause.

Age Level in Maryland Stores and Factories

How far have the deliberate policy of those who set age limits on hiring and the scarcely formulated methods of those who, without any definite policy, "prefer" younger workers, affected the age level of industry? Is there any indication that these factors have been sufficiently influential to cause measureable changes? Is there, in fact, any evidence of a tendency toward a changing age level among those gainfully employed, and if so, in which direction? To gain some light on these questions, it was determined to secure from a number of establishments the age of each individual worker, and having tabulated these data, to see what comparisons and deductions might be possible. It was found necessary to limit this part of the study to two groups of workers—those in manufacturing industries and employees in retail department stores.

Age records were secured for 32,946 individuals, of whom 18,495 were employed in 56 manufacturing establishments in Baltimore or its immediate vicinity. Of the remaining number, 8,874 were employed in 23 manufacturing plants in the counties, and 5,577 were working in seven retail department stores in the city of Baltimore. The facts concerning race, sex, and age of these workers are presented in great detail, with similar facts concerning the general population, but a few of the summary tables give the high lights of the situation.

Baltimore retail department stores.—The department-store employees studied were thus divided as to race and sex:

TABLE 2.—RACE AND SEX DISTRIBUTION OF EMPLOYEES IN BALTIMORE DEPARTMENT STORES

| Race | Males | Females | Total |
|------------|-------|---------|-------|
| White..... | 1,544 | 3,757 | 5,301 |
| Negro..... | 200 | 76 | 276 |
| Total..... | 1,744 | 3,833 | 5,577 |

The age distribution of the whites differed from that of the colored, but the latter formed so small a proportion of the whole that in the following tables no distinction of race is made. In Table 3 the age distribution of these department-store employees is compared, first, for the whole group and then by sex, with the age distribution of the whole population of Baltimore as given by the census of 1920, and the age distribution of those gainfully employed and of those gainfully employed in trade. All the comparisons deal with those aged 14 and over.

TABLE 3.—PER CENT DISTRIBUTION OF POPULATION AND OF SPECIFIED EMPLOYED GROUPS IN BALTIMORE, BY AGE GROUP AND SEX

| Age group | Both sexes | | | | Males | | | | Females | | | |
|------------------------|--------------------------|--------------------------------|---------------------------|--|--------------------------|--------------------------------|---------------------------|--|--------------------------|--------------------------------|---------------------------|--|
| | Total population in 1920 | All gainfully employed in 1920 | Employed in trade in 1920 | Employed in 7 retail department stores in 1930 | Total population in 1920 | All gainfully employed in 1920 | Employed in trade in 1920 | Employed in 7 retail department stores in 1930 | Total population in 1920 | All gainfully employed in 1920 | Employed in trade in 1920 | Employed in 7 retail department stores in 1930 |
| Under 1 years..... | 2.2 | 0.6 | 0.9 | 0.5 | 2.2 | 0.5 | 0.7 | 0.4 | 2.1 | 0.8 | 1.2 | 0.5 |
| 1-4 years..... | 2.0 | 1.2 | 2.2 | 1.0 | 2.0 | 1.0 | 1.8 | 1.6 | 2.0 | 1.9 | 3.2 | .7 |
| 5-9 years..... | 2.3 | 2.3 | 4.1 | 2.9 | 2.2 | 1.6 | 3.1 | 3.7 | 2.4 | 4.2 | 6.5 | 2.6 |
| 10-14 years..... | 2.2 | 2.6 | 3.9 | 5.0 | 2.2 | 1.9 | 3.2 | 4.4 | 2.3 | 4.5 | 5.6 | 5.2 |
| 15-19 years..... | 4.8 | 5.8 | 7.4 | 11.5 | 4.6 | 4.4 | 6.0 | 9.0 | 5.0 | 9.4 | 10.9 | 12.6 |
| 20-24 years..... | 13.2 | 15.1 | 16.4 | 25.6 | 13.1 | 13.6 | 14.7 | 21.8 | 13.5 | 19.3 | 20.3 | 27.3 |
| 25-34 years..... | 44.3 | 46.6 | 45.1 | 38.5 | 44.8 | 48.5 | 47.4 | 39.8 | 43.5 | 41.3 | 39.6 | 37.8 |
| 35-44 years..... | 23.3 | 22.6 | 17.9 | 10.5 | 23.7 | 24.9 | 20.4 | 13.7 | 22.9 | 16.5 | 12.1 | 9.3 |
| 45 years and over..... | 5.7 | 3.2 | 2.1 | .5 | 5.2 | 3.6 | 2.7 | .9 | 6.3 | 2.1 | .6 | .2 |
| Age unknown..... | | | | 4.0 | | | | 4.6 | | | | 3.8 |
| Total..... | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |

¹ Includes those of ages unknown.

Comparing the whole group of department-store employees with the general population, it will be seen that they have a smaller proportion of their number aged 14 and 15, but that from age 16 onward they have a larger proportion until the age group 25 to 44 is reached, when they fall behind. The detailed figures given in the report show that this lag begins with the group aged 30 to 34 and increases with each age group thereafter. The same general situation is shown when the department-store employees are compared with those who in 1920 were gainfully employed, and with those employed in trade, and when the comparison is made by sex. In the latter case, however, it appears that the excess of female department-store employees over those gainfully employed in 1920 does not begin until age 17, while the excess over those employed in 1920 in trade does not appear until ages 18 and 19. A point of special interest is the proportion aged 45 and over. Taking those aged 45 to 64, the percentage of the store employees is less than half that of the general population, or of those gainfully employed; when the comparison is with those employed in trade, the disproportion is not so great, but is still strikingly large. The male department-store employees approach more nearly to the age distribution of the other groups, but even they show only a little more than one-eighth aged 45 to 64, as against nearly one-fourth in this age group in the general male population and males gainfully employed, and one-fifth among the males employed in trade. The female department-store employees, as compared with the general female population, show less than half as large a percentage in the age group 45 to 64, and a considerably lower proportion than those gainfully employed in 1920 but not so marked a difference from those employed in trade. On the whole, these tables indicate rather clearly the working of two tendencies: There is an evident diminution in the employment of children under 16, and a relative decrease in the employment of workers in the higher age groups, especially among those aged 45 and over.

Maryland manufacturing establishments.—Data were secured concerning 27,369 employees in 79 Maryland manufacturing plants, who were thus divided as to race and sex:

TABLE 4.—SEX AND RACE DISTRIBUTION OF MARYLAND FACTORY EMPLOYEES

| Race | Males | Females | Total |
|------------|---------|---------|---------|
| White..... | 18, 672 | 6, 263 | 24, 935 |
| Negro..... | 2, 215 | 219 | 2, 434 |
| Total..... | 20, 887 | 6, 482 | 27, 369 |

As in the case of the department-store employees, full data were collected as to the ages of these workers, and the results are given in great detail. Table 5 shows the age distribution of the manufacturing workers as a whole and by sex, as compared with the general Maryland population in 1920, with those who in 1920 were gainfully employed, and with those employed in manufacturing and mechanical industries.

TABLE 5.—PER CENT DISTRIBUTION OF POPULATION AND OF SPECIFIED EMPLOYED GROUPS IN MARYLAND, BY AGE GROUP AND SEX

| Age group | Both sexes | | | | Males | | | | Females | | | |
|------------------------|--------------------------|--------------------------------|--|---|--------------------------|--------------------------------|--|---|--------------------------|--------------------------------|--|---|
| | Total population in 1920 | All gainfully employed in 1920 | Em- ployed in manu- factur- ing and me- chanical industries in 1920 | Em- ployed in 79 manu- factur- ing estab- lishments in 1930 | Total population in 1920 | All gainfully employed in 1920 | Em- ployed in manu- factur- ing and me- chanical industries in 1920 | Em- ployed in 79 manu- factur- ing estab- lishments in 1930 | Total population in 1920 | All gainfully employed in 1920 | Em- ployed in manu- factur- ing and me- chanical industries in 1920 | Em- ployed in 79 manu- factur- ing estab- lishments in 1930 |
| 14 years..... | 2.6 | 0.6 | 0.6 | 0.1 | 2.7 | 0.5 | 0.3 | 0.1 | 2.6 | 0.8 | 1.5 | 0.2 |
| 15 years..... | 2.3 | 1.2 | 1.2 | .4 | 2.4 | 1.0 | .8 | .3 | 2.3 | 1.8 | 3.2 | .8 |
| 16 years..... | 2.6 | 2.2 | 2.6 | 1.8 | 2.5 | 1.7 | 1.8 | 1.2 | 2.6 | 3.9 | 6.8 | 3.6 |
| 17 years..... | 2.5 | 2.6 | 2.9 | 3.5 | 2.5 | 2.1 | 2.1 | 2.3 | 2.5 | 4.4 | 6.5 | 7.6 |
| 18 and 19 years..... | 5.0 | 6.0 | 5.8 | 9.1 | 5.1 | 5.0 | 4.7 | 6.2 | 5.1 | 9.5 | 11.0 | 18.3 |
| 20-24 years..... | 12.5 | 14.8 | 14.4 | 20.9 | 12.7 | 13.5 | 13.6 | 19.1 | 12.7 | 19.2 | 18.6 | 26.4 |
| 25-44 years..... | ¹ 41.1 | ¹ 44.1 | ¹ 45.6 | 47.9 | ¹ 41.2 | ¹ 45.4 | ¹ 47.6 | 51.9 | ¹ 41.4 | ¹ 39.9 | ¹ 35.8 | 34.7 |
| 45-64 years..... | 23.8 | 24.2 | 23.3 | 14.5 | 24.3 | 26.1 | 25.1 | 16.7 | 23.5 | 17.7 | 14.7 | 7.5 |
| 65 years and over..... | 7.6 | 4.3 | 3.6 | 1.3 | 6.6 | 4.7 | 4.0 | 1.7 | 7.3 | 2.8 | 1.9 | .4 |
| Age unknown..... | | | | .5 | | | | .5 | | | | .5 |
| Total..... | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |

¹ Includes those of ages unknown.

This shows the same general trend that appeared in Table 3 concerning department-store employees. The percentage of children has decreased and so has the proportion of workers aged 45 and over. The relative decrease in this last age group is particularly marked among the female employees, only 7.5 per cent of the number studied being in the age group 45 to 64, while in 1920 the corresponding percentages for females employed in manufacturing and mechanical

industries were 14.7; for those gainfully employed, 17.7; and in the general female population, 23.5.

The lowered age level might, of course, result from the practice of a few very large plants instead of indicating a general trend. To test this the 79 plants studied were tabulated with reference to the proportion of their employees under the age of 45. Roughly speaking, about 70 per cent of the general population aged 14 and over is found in these lower age groups, so the classification was begun at this point. The following table shows the results:

TABLE 6.—NUMBER OF MANUFACTURING ESTABLISHMENTS HAVING SPECIFIED PERCENTAGES OF EMPLOYEES AGED 44 OR UNDER, AND NUMBER OF EMPLOYEES IN EACH GROUP

| Per cent of employees aged 44 or under | Number of establishments | Number of employees | Per cent of employees aged 44 or under | Number of establishments | Number of employees |
|--|--------------------------|---------------------|--|--------------------------|---------------------|
| Under 70..... | 11 | 1,954 | 86 and under 88..... | 3 | 2,347 |
| 70 and under 72..... | 4 | 441 | 88 and under 90..... | 4 | 957 |
| 72 and under 74..... | 8 | 1,483 | 90 and under 92..... | 2 | 262 |
| 74 and under 76..... | 9 | 3,823 | 92 and under 94..... | 2 | 153 |
| 76 and under 78..... | 3 | 741 | 94 and under 96..... | 6 | 4,278 |
| 78 and under 80..... | 3 | 639 | 96 and over..... | 3 | 3,204 |
| 80 and under 82..... | 9 | 3,157 | | | |
| 82 and under 84..... | 5 | 1,854 | | | |
| 84 and under 86..... | 7 | 2,076 | Total..... | 79 | 27,369 |

It will be seen that only 11 establishments, or 13.9 per cent of the total, employing 7 per cent of the workers, correspond to the age level of the general population in having under 70 per cent of their employees in the age groups under 45; or, to reverse the order, in having at least 30 per cent of their employees in the groups aged 45 and over. In 41 (51.9 per cent) of the plants, employing 18,288, or 66.8 per cent of the total number of workers studied, the proportion of employees under 45 varied from 80 to 96 per cent and over. Apparently, the tendency to employ, or to keep in employment, only the younger workers is fairly widespread, although of course its effect shows far more clearly in the larger establishments. This latter fact is emphasized by some data received after the general analysis was made:

Reports received from 3 additional Baltimore or near-Baltimore plants after records of 79 plants had been analyzed indicated that in 2, in each of which less than 200 persons were employed, 61.4 per cent and 65.6 per cent of all employees were less than 45 years of age. Of the more than 1,000 persons employed in the third plant, however, 96.1 per cent were 44 years of age or younger.

Summary

In discussing the results of the investigation, the conclusion is reached that in addition to the conscious and deliberate establishment of an age bar to hiring, there is at work a definite and perhaps unrecognized tendency to choose the younger worker at a time when, as at the present, choice is all too easy, and that this is perhaps even more widely effective than the acknowledged placing of limits. This, the report holds, is demonstrated "by the fact that notwithstanding the conditions revealed by an analysis of the relative age distribution of the industrial workers for whom records were secured, no less than

64 of the 79 manufacturing establishments involved claimed to have no specified maximum age limit for employment."

An important cause of the discrimination against older workers, it is held, is the existence of the welfare plans, such as pensions, retirement plans, group insurance, compensation insurance, and employees' benefit funds. Another, perhaps even more influential, is unemployment, not merely the temporary unemployment due to a passing business depression, but the more serious and enduring form due to the displacement "of human labor by improved mechanical devices accompanied by an increasing labor market caused by growth of population, immigration, and the further industrialization of women, both married and single, and of Negroes, and which makes it possible to choose more or less freely from among numbers of applicants."

The Older Worker in California

THE California study is based upon 2,808 reports—2,098 from manufacturing and 710 from nonmanufacturing establishments—received in reply to a questionnaire sent out by the State department of industrial relations early in 1930, the pay-roll data being as of March. The number of employees covered was 534,608, of whom 289,510 were in manufacturing and 245,098 were in nonmanufacturing establishments. Three hundred and six (11 per cent) of the reporting establishments, with 208,936 employees (39 per cent), had definite maximum age limits for hiring, and 2,502, or 89 per cent, had no such limits. Of the manufacturing establishments 9 per cent, and of the nonmanufacturing 17 per cent, had age limits. Of the employees, however, 18 per cent of those in manufacturing and 64 per cent of those in nonmanufacturing establishments were in concerns having such limits. The extent to which age limits were adopted differed considerably in the different industrial groups.

Public utilities rank highest among nonmanufacturing establishments reporting maximum hiring-age limits. Of the 71 such reporting concerns, 28 or 39 per cent reported maximum age limits. The total number of employees on the pay rolls of these 71 companies, as of March, 1930, was 136,548, but the 28 companies which reported age limits employed 128,872, or 94 per cent, of these employees.

Ranking next highest to public utilities in the matter of maximum hiring-age limits are transportation companies. Of the 37 reports received from such companies, employing 14,263 persons, 11 or 30 per cent had maximum hiring-age limits. These 11 companies had 10,475, or 73 per cent, of the total number of employees on the pay rolls of all reporting transportation companies. Of the 108 reports received from both public utilities and transportation companies, 39 or 36 per cent had maximum hiring-age limits, but these 39 companies employed 139,347 persons, or 92.4 per cent of the 150,811 persons on the pay rolls of the 108 reporting public utilities and transportation companies.

Three hundred and thirty-seven mercantile establishments, which had on their pay rolls as of March, 1930, 58,810 employees, reported on the age limitation question. Forty-three of these establishments, employing 10,881 persons, reported hiring-age dead lines. In other words, 13 per cent of these 337 mercantile establishments, employing 19 per cent of the 58,810 employees, had maximum hiring-age limits. Of the 58 reporting trade companies, 14 or 24 per cent had age limits. These 14 companies employed 2,402, or 26 per cent, of the 9,400 employees on the pay rolls of the 58 reporting concerns.

There appeared to be a distinct relation between the size of an establishment and the adoption of hiring-age limits. The average number of employees per establishment reporting was 190, while for the establishments reporting age limits it was 683 and for those

reporting no age limits 130. This was especially marked among public utilities. Reports were received from 71 of these, the average number of employees per company being 1,923, but for the 28 having age limits it was 4,603, and for the 43 which had no age limits it was 179.

Maximum Ages and Occupations

Of the 306 employers who reported that they had adopted maximum age limits for hiring, 272 gave the age limits they had established, some giving age limits for different occupations in considerable detail, while others gave a single maximum age as applying to all occupations. The 89 employers who set a single age were grouped as follows, according to the maximum set: 30 years, 1; 35 years, 6; 40 years, 13; 45 years, 24; 50 years, 28; 55 years, 5; and 60 years, 12. Forty-five and 50, it will be noticed, are the ages most frequently set, 50 being slightly in the lead. However, in 20 cases the limit was set at or below 40.

When the limits for separate occupations are given, the maximum age runs all the way from 19 to 60 years. Up to 25 years the limits usually apply either to apprentices or to distinctly juvenile tasks, stock girls, errand boys, tray boys, and messengers being some of those to whom they are applied. At 25 the list increases to take in spinners, drillers, rivet heaters, cashiers, ironers, finishers, and a number of others. One employer will hire no salesman over 26 years old, another sets the limit for all sales people at 30, and 35 is given several times as the limit for saleswomen. The 272 employers answering gave limits for 391 occupations; in 29 per cent of these 391 cases, the limit was set at or below 35, in 19 per cent it was at 40 years, in 15 per cent at 45, and in 24 per cent at 50.

Effect of Welfare Plans in Causing Adoption of Hiring-Age Limits

As in the Maryland study, it was found that employers frequently explained their adoption of maximum hiring-age limits as due to their maintenance of such plans as retirement pensions or group insurance. To test this, an analysis was made of the figures concerning the establishments which had and which had not set up welfare plans. The total number of establishments reporting, it will be remembered, was 2,808, of which 306 or approximately 11 per cent had established age limits. Of the total number reporting, 783 had group insurance or pension plans or both, or physical examinations, or combined physical examinations with one or both of the other plans, and in this group 148 establishments, or 18.9 per cent, had adopted age limits for hiring. On the other hand, among the 2,025 which had neither group insurance nor retirement plans nor physical examinations, only 158 or 7.8 per cent had hiring-age limits.

A further study of the figures shows that establishments having a combination of the insurance and pension plans, or pension plans alone, or physical examinations of applicants for employment are the establishments in which maximum hiring-age limits are found more frequently than in establishments having group insurance only.

Other Reasons for Establishing Age Limits

Technological unemployment is given as one important reason for the existence of age limits on hiring. Since the war the part in production played by machinery has increased materially, the output per worker has grown larger, and the number of workers required has decreased, while the demand upon the individual worker has in many cases become more severe.

Technological unemployment is clearly one of the important causes of maximum hiring-age limits. Because of the competition for jobs brought about by unemployment, employers of labor are in a position to hire younger persons for whatever jobs they may need to fill. Moreover, owing to the introduction of speedier machines and to the greater strain and intensity under which economic goods are now produced, many employers prefer to hire younger people, whom they consider more adapted to present-day factory conditions. It must be conceded that in periods of widespread unemployment it is more difficult for middle-aged workers to find work than for younger persons.

A considerable part of the difficulty, however, is ascribed to sheer prejudice against the older worker, which leads to a hasty assumption that he is less useful than a younger applicant, and takes no account of the qualities in which he may excel.

Such qualities as experience, adaptability, judgment, carefulness, loyalty, steadiness, good personal habits, and other measures of individual worth, which may be found more frequently among older than younger workers, are ignored in all cases where maximum age limits automatically exclude workers from gainful employments.

Reasons for Preferring Older Workers

Eighty-nine per cent of the employers replying did not make use of age limits in hiring, and a number of these gave their reasons for not approving of such a practice. The general attitude was that an applicant should be hired or turned away on the basis of his individual fitness for the job in question, but a number of those answering gave reasons for thinking that a middle-aged employee was really more desirable than a younger one. Some employers pointed out that age has little to do with the matter; "some men are old at 40, some are young at 60"; mental and physical fitness are what really matter, and if the applicant has these, his years are unimportant. Middle-aged and older workers are more efficient and experienced, say other employers; they are better fitted for certain jobs; they are steadier and reduce labor turnover; they are less likely to injure themselves; they are more faithful and reliable, and have better judgment.

The report closes with a register of employers openly opposed to the establishment of maximum hiring-age limits, composed of 1,287 of those answering the questionnaire who expressed their willingness to let their names be used in stating their position. These companies had on their pay rolls at the date given 157,746 employees, or an average of 123 per company. In presenting this list it is stated that "there are a large number of other employers in California who are also opposed to maximum hiring-age limits, but who thought that if their names were used they would be flooded with applications for employment from middle-aged and older workers," and who are therefore not included in this register.

Conclusion

THESE two studies, carried on in States differing widely in their industrial characteristics and geographically as far apart as the limits of the Union permit, show a marked similarity in their general findings. In both States it appears that a number of employers consciously and intentionally set age limits beyond which they will not hire an applicant for employment. In both States the practice seems to be sufficiently common to affect a considerable proportion of the workers. In Maryland 30.3 per cent of 173,724 employees, and in California 39 per cent of 534,608 employees were in establishments in which maximum age limits for hiring were used. In both States the practice was found to be more common among public utilities and transportation companies than elsewhere. In both States the limits varied with the nature of the occupation; in California the age most commonly set as applying to all occupations was 50 years, in Maryland, 45 years, but in both States 40 and even 35 years were found as the deadline. In both States the leading reasons assigned for the practice are the maintenance of welfare plans, and unemployment, which gives the employer a large body of applicants from whom to choose. The Maryland study presents a body of data as to the changing age level in industry, and the California study emphasizes the ill effects of excluding the older worker from employment. Both agree in finding that the adoption of maximum age limits for hiring is sufficiently common to create a social and economic problem of the first magnitude.

Workmen's Compensation Legislation of the Latin American Countries

OF THE 20 Latin American countries, the following 16 countries have either enacted workmen's compensation laws or (as in Venezuela) included in the labor laws provisions on workmen's compensation: Argentina, Bolivia, Brazil, Chile, Colombia, Costa Rica, Cuba, Ecuador, Guatemala, Nicaragua, Panama, Paraguay, Peru, Salvador, Uruguay, and Venezuela. While there is no national workmen's compensation law in Mexico at the present time, 24 of the 28 Mexican States have either enacted special workmen's compensation laws, as in the case of Nuevo Leon, San Luis Potosi, Sinaloa, Sonora, and Vera Cruz, or have included in their labor codes provisions on workmen's compensation.

A summary of the legislation referred to is presented below. The full text, in English translation, is contained in Bulletin No. 529 of the Bureau of Labor Statistics.

Legislation of South and Central American Countries

Scope of the Laws

Employments covered.—There is a great variation in the laws as regards industries covered, and no law undertakes to cover all employments. However, of the countries which give detailed lists thereof, and many give them in the minutest detail, all include mining and quarrying, work in factories, workshops, and agricultural pursuits in

which mechanical power is used, and construction work. Work in gas and electric plants and in telephone and telegraph establishments are generally included, as are also longshore operations and work in establishments manufacturing or using poisonous, unhealthful, explosive, or inflammable substances. Transportation operations, whether by land or water, are regarded as hazardous employments by Argentina, Brazil, Chile, Colombia, Costa Rica, Cuba, Ecuador, Guatemala, Panama, Paraguay, Peru, Salvador, and Uruguay.

Practically all of the laws contain provisions stating that apprentices, even though not earning a wage, have the same rights and are entitled to the same benefits under the compensation law as other employees.

Employers exempted.—Four countries, Chile, Cuba, Nicaragua, and Venezuela, exempt employers having less than 5, 6, 15, and 25 workers, respectively, from paying compensation, while Peru stipulates that mining enterprises employing 35 workers or less are exempt.

Employers in Colombia whose capital stock is less than 1,000 gold pesos are exempt, and also those in Bolivia having a capital of less than 20,000 bolivianos except where there is a special agreement between the employer and worker.

Employees not covered.—Employees whose employment is casual and not in the usual course of the employer's trade or business are excluded by many of the laws. Employees receiving above a designated wage or salary are sometimes excluded in the compensation laws, although the general practice in the Latin American countries is to place a maximum on the amount of the annual wages on which the compensation is to be based. Such limits have been set by the following countries: Argentina (3,000 pesos per year), Bolivia (3,600 bolivianos per year), Brazil (2,400 milreis per year), Chile (3,000 pesos per year), Colombia (3 pesos per day), Costa Rica (10 colons per day), Cuba (1,095 pesos per year), Ecuador (3,600 sucres per year), Nicaragua (1,200 cordobas per year), Peru (120 gold libras per year), Uruguay 750 pesos per year), and Venezuela (600 bolivars per month).

Injuries covered.—The compensation laws are limited, not only as to employments covered and persons compensated but also as to injuries covered. The laws generally specify that employers are liable for accidents suffered by their employees and workers while performing their work, and arising out of or in the course of such employment.

The compensation laws of Costa Rica and Cuba define an industrial accident as a bodily injury sustained by a worker in the course of or arising out of the work. The Colombian law restricts the meaning still further by defining it as an unforeseen and sudden occurrence arising out of and in the course of the work which causes to the one performing the work a temporary or permanent bodily injury or functional disturbance not due to any fault on the part of the worker.

Injuries are not compensable in the various countries when they are due to force majeure not connected with the nature of the work, or to the employee's intoxication, to violation of safety rules, or to the employee's willful intention to bring about the injury.

The laws of the following countries make specific provision for compensating occupational diseases: Argentina, Bolivia, Brazil, Chile, Colombia, Costa Rica, Ecuador, Guatemala, Nicaragua, Paraguay, and Venezuela. Occupational diseases are generally defined

as those contracted exclusively during the course of the work and due to the nature of the said employment, resulting in the death of the worker or his incapacity.

Waiting time.—Eleven of the 16 laws (all except Brazil, Chile, Peru, Salvador, and Venezuela) require a minimum duration of disability as a condition to the payment of compensation benefits, the period varying from six days in Argentina, Bolivia, Ecuador, and Guatemala to two weeks in Cuba. This does not apply to medical and pharmaceutical attention, which is to be provided at once.

Compensation Benefits

Basis of compensation.—The compensation scale is usually based upon the earnings of the injured employee. In general, the disabled employee's average wages earned during a prescribed period preceding the injury are used as the basis for determining the amount of compensation.

Death.—The methods employed in determining compensation for death vary. The laws of Brazil and Ecuador provide for amounts equal to the annual wages of the deceased for three years, while Bolivia, Panama, Salvador, and Venezuela grant amounts equal to two years' wages, the latter fixing a maximum of 15,000 bolivars; the Colombian law specifies one year's wages; and those of Argentina and Paraguay provide a death benefit equal to the wages of the deceased for a period of 1,000 days. Bolivia, Brazil, Ecuador, and Panama require the death benefits to be paid in a lump sum, although in Panama the employer may elect to pay the heirs of the deceased pensions equal to 50 per cent of the wages of the deceased for six months, if sufficient guaranties are given. Although the Salvadorean law grants two years' wages when a widow and children survive, the benefit is reduced to one year when the widow is the sole survivor. The laws of Chile, Costa Rica, Cuba, Guatemala, and Uruguay require employers to pay to the surviving spouse life pensions of 20 per cent of the deceased employee's annual wages, and in Peru a pension equivalent to 11 per cent of the wages is fixed. The pensions granted to the surviving minor children vary according to the number of children and whether there is a surviving spouse. For instance, in Costa Rica and Uruguay if one minor child survives the pension will be 15 per cent of the deceased employee's annual wages; 25 per cent if there are two children; 35 per cent if there are three; and 40 per cent if there are four or more. If there is surviving neither father nor mother, the pension may be as much as 20 per cent of the annual wages for each of the minors. Besides compensating the surviving spouse and the minor children, practically all of the laws make provision for other descendants and ascendants if they were living with and dependent upon the deceased at the time of the accident.

The benefits to minor children and descendants terminate when they become of age and those to the widow if she remarries or leads an immoral life.

In addition to the preceding benefits, all of the countries require the employers to pay the funeral expenses. Eleven laws specify definite amounts, while in Panama the amount depends upon the worker's social position; in Colombia it specifies merely, "the neces-

sary funeral expenses," and in Peru an amount equivalent to two months' wages of the deceased.

Permanent total disability.—Compensation for permanent total disability also varies considerably. The laws of Argentina and Paraguay provide that 1,000 days' wages shall be paid to workers for permanent total disability. Bolivia, Brazil, Colombia, Ecuador, Panama, Salvador, and Venezuela pay benefits ranging from one year's wages (Colombia) to three years' wages (Brazil) for permanent total disability; Costa Rica, Cuba, and Uruguay provide that compensation payments amounting to two-thirds, Chile and Guatemala 60 per cent, and Peru 33 per cent of the injured worker's previous wages shall continue for the full period of his life.

Permanent partial disability.—The laws of Bolivia, Chile, Ecuador, Panama, and Venezuela provide benefits for permanent partial disability ranging from one year's wages, to be paid in a lump sum, in Panama to two years' wages in Chile and Ecuador. In Colombia the injured worker receives his full pay for from 90 to 140 days, depending on the degree of disability. In Argentina, Nicaragua, and Paraguay the employer is required to pay one thousand times the reduction in the injured worker's daily earning capacity or wages. In Salvador the employer must furnish the worker other suitable employment with equal pay. In Costa Rica, Cuba, and Uruguay a life pension of one-half and in Peru of 33 per cent of the difference between the wages which he had been receiving and those which he receives after he takes up another occupation is to be awarded. In cases of permanent partial disability in Guatemala the injured worker is entitled to an annuity of not to exceed 60 per cent of his wage, while in Brazil the benefits range from 5 to 60 per cent of the amount for permanent total disability, according to nature and extent of the disability.

Temporary disability.—Eleven of the countries—Argentina, Bolivia, Chile, Costa Rica, Cuba, Ecuador, Guatemala, Nicaragua, Panama, Salvador, and Uruguay—have provisions in their compensation laws requiring employers to grant their workers who are temporarily disabled half pay from the time of the injury until they are able to return to work, providing the disability does not last longer than one year. If it exceeds this time, benefits for permanent disability shall be awarded to the employee. The laws of Colombia and Paraguay specify that workers who are temporarily disabled shall receive two-thirds of the wages they were earning at the time of the accident. A distinction is made in the laws of Brazil, Peru, and Venezuela between temporary total and temporary partial disability. For the latter, employers in Brazil and Peru are required to pay one-half of the difference between the wage earned before the accident and that which he earns as a result of his diminished working capacity until he has regained his normal ability. For temporary total disability, employers in Brazil must grant half pay and those in Peru 33 per cent of the wage for a period not exceeding one year. For temporary total disability the Venezuelan employer is required to pay the injured worker his regular wages during the disability, for a period not to exceed six months; in case of temporary partial disability the worker will be entitled to compensation based on his wages, the loss of earning capacity due to the accident, and the duration of the disability.

Medical service.—All of the compensation laws of the Latin American countries make definite provision that employers furnish injured employees with medical and pharmaceutical attention until the latter are able to return to work, or until, in the opinion of the attending physician, they are no longer in need of such aid.

In practically all of the countries the employer selects the physician, but in many of them the employee may, if he so desires, choose his own physician; in such case, however, the employee must pay either for the cost of such service or for any amount over that set by the judge or by a prescribed scale of fees, and the employer is frequently given the right to have his own physician visit the injured worker.

Limitation of Time for Claim

Limitations are placed on the time in which claims for compensation may be made in all the laws except that of Guatemala, varying in length from one year to two years (Brazil, Chile, and Salvador) from the date of the accident. In Costa Rica and Panama, after the time limit under the compensation law has expired, an action for damages under the general laws may be brought.

Settlement of Compensation Claims

Nearly all the Latin American compensation laws provide for the settlement of compensation claims by agreement between the parties, and in case the employer and the employee fail to reach an agreement existing machinery is utilized for the making of compensation awards. Thirteen of these Republics (Argentina, Brazil, Chile, Colombia, Cuba, Ecuador, Guatemala, Panama, Nicaragua, Paraguay, Peru, Salvador, and Uruguay) provide that employees' claims shall be brought before the civil courts for adjudication, while in Costa Rica a superior court of arbitration handles such matters, though the parties have the right to take their case to the ordinary courts if they wish. The Argentine regulatory decree applying to the Federal capital and the National Territories empowers the Department of Labor to mediate, and provides that disputes which can not be settled by mediation shall be taken before the district judge and tried by summary proceedings. The laws in two countries specify that disputes concerning compensation shall be heard by the executive authorities, i. e., the National Department of Labor in Bolivia, and the respective executive authorities in the various States in Venezuela.

In Argentina the employee may elect to bring suit either under the compensation law or the general laws. In Brazil, Chile, Costa Rica, and Ecuador acceptance of rights under the compensation law does not preclude the bringing of actions under the general laws for damages not covered by the compensation law.

The right to appeal is specifically provided for in the laws of Chile, Costa Rica, Peru, Uruguay, and Venezuela. The appeal is generally to the higher courts, but in Costa Rica the award of the superior court of arbitration may be appealed to the Executive Authority and in Venezuela a case may be appealed by either party to the Minister of Interior Relations, whose decision is final, but if either employer or employee does not wish to submit the case to arbitration in this manner it may be appealed to the courts. The

Chilean law makes special provision that appeals in compensation cases shall take precedence over other cases on the docket.

Revision of awards because of change in the condition of the injured person, such as an increase or decrease in the disability or his death, is provided for by the laws of Brazil, Costa Rica, Peru, and Uruguay.

Actions against third parties responsible for the accident causing the worker's disability may be brought under the laws of Argentina, Chile, Costa Rica, Ecuador, Paraguay, Peru, and Uruguay, in which case any amount recovered, over the amount the employer is responsible for under the compensation law, accrues to the injured employee.

In Chile, Colombia, Costa Rica, Guatemala, and Uruguay the laws specify that in compensation cases there shall be no court costs for the injured worker, and the Brazilian law provides for a 50 per cent reduction in court fees, while the laws of Argentina, Panama, and Paraguay give the privilege to injured employees of suing in forma pauperis, thus saving such workers from the heavy expense ordinarily incurred in court trials.

Reporting of Accidents

With the exception of Panama and Venezuela, all the countries have written into their compensation laws or regulations provisions requiring the employer, the employee or his representative, or both, to report to some official of the labor office, or to some judicial or political authority, the occurrence of an accident. In some instances, reports of accidents are transmitted through the local police or judicial authorities, and in such cases (as in Brazil, Ecuador, and Peru) they must verify the facts contained in the original accident report filed with them before transmitting such report. In Venezuela the injured worker must report the accident to the employer.

The time limits within which accident reports must be filed by employers vary from immediate notice to 30 days. The Peruvian law demands immediate notice, and the law of Salvador notice within 12 hours; the laws of Argentina, Colombia, Costa Rica, Cuba, and Nicaragua require notice within 24 hours; the law of Ecuador within 48 hours; that of Bolivia within 3 days; that of Uruguay before the fifth day; that of Chile within 5 days; and that of Paraguay within 30 days. When employees are required to report accidents, the time within which they must do so varies from 24 hours in Venezuela to 30 days in Argentina.

It is provided that accident reports be furnished to the authorities in detail, since they serve as the basis for awards in compensation matters. In general, these reports must contain the name and address of the injured worker, his heirs and dependents in case of death, the name of the employer, the occupation and wage rate of the injured worker, the nature of the injury and the probable duration of the disability, and the names of witnesses. Physicians' certificates are a part of the accident report; in certain countries provision is made for a further medical examination by a physician appointed by the court when dispute arises in the course of the trial, in which case the report of the physician so appointed forms the basis of the compensation award.

Security of Payments

Fourteen of these 16 countries permit employers to insure their compensation risks with an insurance company, mutual association, or Government fund, while the other countries (Paraguay and Venezuela) have no provision on this point. In Costa Rica and Uruguay employers must insure in the Government insurance bank. In Guatemala the payment of compensation is made through cooperative or mutual-aid funds, to which the workers contribute from 2 to 3 per cent of their wages, according to locality, and even as much as 4½ per cent if women and children are employed, and the employer contributes half as much more. These funds are administered by an executive board, two-thirds of whose members are employees and one-third are employers.

The laws of Bolivia, Brazil, Chile, Colombia, Costa Rica, Cuba, Ecuador, Panama, Peru, and Salvador state that the cost of the insurance must be borne by the employer. Those of Argentina, Bolivia, Chile, Colombia, Ecuador, Panama, Peru, and Salvador require that in case of such insurance the benefits under the policy must not be less than those provided by the law.

Insurance companies writing compensation insurance are subject to the supervision of the authorities in the respective countries in which they operate. Some laws have additional safeguards, such as that insurance companies invest a certain sum in Government bonds, that they deposit securities as a guaranty of financial responsibility, that they open their books for inspection, etc. Certain laws—i. e., those of Argentina, Brazil, Chile, Cuba, Peru, and Salvador—require the carrier to keep the compensation funds separate from other funds.

Administration

In most Latin American countries the administration of the workmen's compensation act is intrusted to an executive branch of the National Government, such as the following: Argentina, National Department of Labor; Bolivia, Minister of Finance and Industry; Chile, General Labor Office; Cuba, Department of Agriculture, Commerce and Labor; Ecuador, Ministry of Labor and Social Welfare; Guatemala and Peru, Ministry of Public Works. In Costa Rica, provincial authorities administer the law, but in case of noncompliance with their obligations the Ministry of the Interior may be appealed to while in Panama the Executive Authority appoints labor officials to administer the law. In Salvador, the Attorney General and boards of conciliation are intrusted with administration of the law.

Legislation of the Mexican States

THE Mexican Government has drawn up a bill for a Federal Labor Code which, if approved as a law, would make uniform the application of article 123 of the Mexican Constitution of 1917 and would supersede the various State laws.

For various reasons the approval of the bill has been delayed and considerable doubt has been expressed as to its ultimate passage. It was thought advisable therefore to publish the State workmen's compensation laws which are in effect at the present time. Twenty-four

of the 28 Mexican States (all except Guerrero, Mexico, Morelos, and Tlaxcala) have either enacted special workmen's compensation laws, as Nuevo Leon, San Luis Potosi, Sinaloa, Sonora, and Vera Cruz, or have included in their labor codes provisions dealing with workmen's compensation. The 24 State laws which have been translated by this bureau from the official Spanish texts obtained through the courtesy of the governors of the various States, are as follows: Aguascalientes, Campeche, Chiapas, Chihuahua, Coahuila, Colima, Durango, Guanajuato, Hidalgo, Jalisco, Michoacan, Nayarit, Nuevo Leon, Oaxaca, Puebla, Queretaro, San Luis Potosi, Sinaloa, Sonora, Tabasco, Tamaulipas, Vera Cruz, Yucatan, and Zacatecas.

Section XIV of article 123 of the Federal Constitution of Mexico forms the basis for these laws, being as follows:

Employers shall be liable for industrial accidents and occupational diseases arising from work; therefore, employers shall pay the proper indemnity, according to whether death or merely temporary or permanent disability has ensued, in accordance with the provisions of law. This liability shall remain in force even though the employer contract for the work through an agent.

Compensation Benefits

Basis of compensation.—In practically all of the Mexican States the worker's wages at the time of the injury are used as the basis for determining the amount of compensation. In Puebla the employee's average wages earned during the last four weeks of normal work are used. In Campeche and Chihuahua the worker's average weekly wage on which the compensation is based is limited to a maximum of 35 pesos and a minimum of 6 pesos. The laws of Tamaulipas and Vera Cruz provide that the daily wage on which the compensation is based shall be not less than 1 peso, even in the case of apprentices who receive no remuneration or of workers who earn less than that amount; while those of Chiapas, Colima, and Jalisco provide that the basic wage for compensation purposes must be not less than the minimum wage as fixed by the minimum-wage commissions. Aguascalientes specifies that compensation shall be based on the maximum wage for the year preceding the accident, but not to exceed 1,000 pesos per year.

Death.—Six of the Mexican States—Aguascalientes, Chiapas, Durango, Tamaulipas, Vera Cruz, and Zacatecas—provide death benefits in an amount equal to two years' wages, but in the case of Tamaulipas and Vera Cruz it is stipulated that disability compensation paid the worker before death may be deducted therefrom. In Coahuila the law specifies that death benefits shall be equal to 900, in Hidalgo to 624, in Guanajuato (agricultural workers) to 300 days' wages, and in Campeche and Chihuahua to 150 weeks' wages, while in Colima, Guanajuato (mine workers), and Nayarit the amount is equal to one year's wages. Compensation for death varies in San Luis Potosi according to the amount of the company's capital, one year's wages being paid if the capital is between 10,000 and 50,000 pesos and two years' wages if it exceeds 50,000 pesos. A somewhat similar arrangement is found in Chihuahua, Hidalgo, Sinaloa, Sonora, Tamaulipas, and Zacatecas, where provision is made whereby smaller concerns pay only a certain fixed proportion of the usual compensation allowance. If the worker's death is due to an industrial acci-

dent, two years' wages are paid in Tabasco while only one and one-half year's wages are paid if it is the result of an occupational disease. The board of conciliation and arbitration fixes the compensation in Sinaloa. Death benefits paid under the laws of Oaxaca and Yucatan vary according to the worker's length of service. Five State laws—Jalisco, Michoacan, Nuevo Leon, Puebla, and Queretaro—provide for compensation varying in amount with the conjugal condition and the number of children of the deceased. The law of Sonora pays 50 per cent of the average weekly wage for 300 weeks. Benefits to children are generally payable until they reach the age of 16 years, but many laws provide that the benefits shall not cease if, at the age named, the recipient is mentally or physically incapacitated for earning a living. Many of the State laws examined permit benefits to be paid to ascendants if they have been dependent upon the deceased, and if there are neither spouse nor descendants.

Employers must pay, in addition to the above-mentioned benefits, the funeral expenses, the allowance therefor ranging from a minimum of 20 pesos in Queretaro to 100 pesos as a maximum in Chiapas, Coahuila, Hidalgo, and San Luis Potosi, while in Nayarit, Tamaulipas, and Vera Cruz one month's wages are allowed.

Permanent total disability.—Compensation benefits for permanent total disability range from one year's wages in Colima and two years' wages in Chiapas, Durango, Michoacan, Nuevo Leon, Queretaro, and Zacatecas to four years' wages in Aguascalientes, Tamaulipas, and Vera Cruz. In Campeche and Chihuahua the employer pays benefits equal to 175 weeks' wages and in Hidalgo to 624 days' and in Coahuila to 900 days' wages (with a maximum limitation of 5,000 pesos). In Tamaulipas and Vera Cruz the employee, at his option, may receive either a life pension at half pay or an amount equal to four years' wages, while in Nayarit compensation equal to one-half of the worker's wages for a period of two years is paid. If the employee has worked for the same employer over two years in Tabasco and three years in Yucatan, he receives five years' wages, but if less than two years an amount equal to two years' pay. If a worker in Puebla is permanently and totally incapacitated as regards his regular work, he receives 18 months' pay, whereas if his incapacity prohibits him from doing work of any kind, he receives two years' wages.

Permanent partial disability.—The laws of Campeche, Chiapas, Chihuahua, Coahuila, Hidalgo, Sonora, Tamaulipas, Vera Cruz, and Zacatecas contain schedules of specified partial disabilities for which benefits are awarded for stated periods. The law of Sinaloa contains a list of permanent partial disabilities for the use of the municipal or State boards of conciliation in fixing the amounts of compensation.

In some States benefits for permanent partial disability differ from other benefits in that a choice is given, in some cases to the employer and in others to the employee, as to how the benefits shall be paid. For instance, in Puebla and Queretaro the employer, at his option, may either pay benefits equal to one year's or to one and one-half years' wages, respectively, or furnish the employee with other suitable employment at equal pay. In Michoacan, Tabasco, and Yucatan the employee may decide whether he desires other work at the same wage or an amount equal to one year's wages. In Durango the employer is required to furnish the injured worker other suitable em-

ployment with equal pay and may not discharge him for a period of two years from the time of the accident. An injured worker in Nuevo Leon shall receive an amount varying from 20 to 40 per cent of his previous wages, not to continue, however, longer than one and one-half years.

Benefits for permanent partial disability in Jalisco range from six months' to 1 year's wages, while in Aguascalientes, Colima, and Nayarit they are equal to two years', six months', and one year's wages, respectively. No specific amount of compensation is stated in the law of San Luis Potosi, which merely provides that the amount shall be fixed by a mutual agreement between the employer and the injured worker according to the seriousness of the injury.

Temporary disability.—Of the 24 Mexican States whose compensation laws are covered by this study, 14 provide for the payment to the worker of his regular wages during the period that he is temporarily incapacitated for work due to an industrial accident or occupational disease. In these States there is no "waiting period" required, the payments beginning at once and continuing as long as the disability exists, or until the worker is classed as permanently disabled, when the provisions for permanent total or partial disability apply. The laws of Michoacan, Nayarit, Nuevo Leon, Queretaro, Sinaloa, and Sonora provide for payment of 50 per cent and of Hidalgo 75 per cent of the regular wages under the same conditions as above, except that in Sinaloa and Sonora the payments do not begin until two weeks after the accident. In Campeche and Chihuahua, the regular wages are paid for two months and two weeks, respectively, and one-half the regular wages thereafter until recovery. The States of Campeche, Chihuahua, Sinaloa, and Sonora further establish a minimum compensation of 6 pesos and a maximum of 20 pesos per week.

Medical service.—By the compensation laws of 23 States the employer is required to pay the cost of the necessary medical service and medicines for workers injured in an industrial accident or suffering from an occupational disease, including all necessary care and attention from the time of the injury until recovery. In Nayarit the provisions of the general labor law, which requires employers to provide medical service, or at least medicines, apply in any proved case of sickness or injury.

Limitation of Time for Claim

Limitations are placed on the time for filing compensation claims ranging from one year in Colima and Oaxaca to five years in Jalisco and Vera Cruz.

Reporting of Accidents

Definite provision is made in the laws of nine States fixing the responsibility for the reporting of accidents to the proper authority. In Vera Cruz and Tamaulipas the employer and the worker or his representative are held equally responsible for making the report, but in the other seven States the employer is solely responsible. The report must generally be made to the municipal authority within 24 hours after the accident, but in Yucatan a period of 48 hours is allowed, and the Labor Exchange is the authority designated to receive the report, while both the municipal authority and the Bureau of Labor and Social Welfare in Puebla and the Department of Labor in Guanajuato must be notified.

Form of Payment—Security—Insurance

Direct payments by employer to employee, either in a lump sum or in the same manner that wages were paid, is the prevailing procedure in accordance with the Mexican State laws. For example, the laws of Aguascalientes, Coahuila, Michoacan, and Queretaro specifically provide for payment in a lump sum, although Coahuila allows 120 days' time and a division of the total into two partial payments. Hidalgo, while requiring insurance, also stipulates payment of the amount in a lump sum. In Nuevo Leon compensation must be paid as wages. The employer is permitted to discharge his compensation liabilities by a life annuity, subject to certain conditions, in Aguascalientes, Puebla, Tamaulipas, and Vera Cruz. Security in the form of a bond or mortgage is required in Aguascalientes, Oaxaca, and (for annuities) in Puebla. Insurance does not seem to be a popular method of liquidating compensation liabilities, as it is required to the exclusion of other methods in one State only, Hidalgo. It is, however, made optional with employers in Aguascalientes, Campeche, Colima, Guanajuato, Jalisco, Puebla, Tamaulipas, and Vera Cruz, and is required in the last-named State of all employers whose working capital is less than 10,000 pesos, or whose workers (20 per cent or more) demand it. No State compensation funds have as yet been established, but State insurance is contemplated in Hidalgo under the new Labor Code (1928).

Administration

The administration and enforcement of the compensation law is generally intrusted to the municipal and State boards of conciliation and arbitration, but most States specifically provide that no intervention of any authority is necessary where the interested parties can agree on the amount of compensation and form of payment, and the boards or other authorities intervene only in the settlement of differences or to enforce payment when such payment is not made promptly by the employer. In Aguascalientes, Coahuila, and Oaxaca, however, the intervention of the board is required, and in Durango compensation for death must be paid with the intervention and in the presence of the board. The civil courts have jurisdiction in Nuevo Leon, and in Campeche, Chihuahua, and Colima judicial intervention is provided for, while in Puebla claims for final compensation must be brought under the civil law. In Guanajuato the State Department of Labor, with the aid of the municipal executives, enforce compensation payments and investigate conditions. Campeche and Chihuahua stipulate that attorneys representing workers in compensation cases may not charge more than 5 per cent of the compensation for their services; in Sonora no charge is permissible, while in Colima and Sinaloa State and municipal attorneys are required to aid workers without charge. Medical boards or special technical committees subordinate to the Board of Conciliation and Arbitration are established in Hidalgo, Oaxaca, Sinaloa, and Sonora to give expert advice and make decisions on technical questions in connection with disability and occupational diseases, and in Tamaulipas and Vera Cruz questions of this nature are referred to the State health authority.

Extent of Overdevelopment in the Bituminous Coal Industry

By ETHELBERT STEWART, UNITED STATES COMMISSIONER OF LABOR STATISTICS

IN 1923, 9,331 bituminous coal mines reported to the Bureau of Mines; in 1929 only 6,057 so reported, a decrease of 35 per cent. The decrease occurred among mines of every size (measured by production) except the very large ones, that is, the mines producing 200,000 tons or more per year; these numbered 748 in 1923 and 827 in 1929, an increase of 10.6 per cent. The group of mines producing from 100,000 to 200,000 tons decreased from 935 in 1923 to 660 in 1929, or 29.4 per cent; those producing from 50,000 to 100,000 tons decreased from 1,176 to 668, or 43.2 per cent; those producing from 10,000 to 50,000 tons decreased from 2,742 to 1,361, or 50.4 per cent; while those producing less than 10,000 tons, but exclusive of wagon mines producing less than 1,000 tons, decreased from 3,730 to 2,541, or 31.9 per cent.

In 1923 the 9,331 mines reporting employed 704,793 workers, while those operating in 1929 employed 502,993 workers. This was a decrease of 201,800 workers, or 28.6 per cent, but in the same period the decrease in total production was only 5.2 per cent. The average number of employees per mine increased from 76 in 1923 to 83 in 1929.

The squeezing out of 35 per cent of the bituminous coal mines between 1923 and 1929 resulted in an increase in the average days worked per mine from 179 days in 1923 to 219 in 1929, or 22.4 per cent. Nevertheless the operating mines worked at only 71.1 per cent of capacity in 1929 as against 75.3 per cent in 1923.

Much light is thrown upon the squeezing-out process from an examination of the coal reports of individual States. These figures are based upon all mines, regardless of size, reporting to the State bureaus.

The number of coal mines in Illinois, Indiana, Ohio, and West Virginia has constantly decreased during the years 1923 to 1929, as follows:

TABLE 1.—NUMBER OF BITUMINOUS COAL MINES IN OPERATION IN ILLINOIS, INDIANA, OHIO, AND WEST VIRGINIA, 1923 TO 1929

| Year | Illinois | Indiana | Ohio | West Virginia |
|-----------|----------|---------|-------|---------------|
| 1923..... | 1,136 | 220 | 1,301 | 1,702 |
| 1925..... | 913 | 165 | 955 | 1,208 |
| 1927..... | 906 | 151 | 906 | 1,159 |
| 1928..... | 803 | 130 | 752 | 995 |
| 1929..... | 803 | 130 | 752 | 995 |

In West Virginia the decrease in the number of mines has been accompanied by an increase in production and in days of operation. West Virginia mines in 1928 showed an increase over 1923 of 53.8 per cent in production, and of 24.7 per cent in days of operation. The total number of employees in the West Virginia mines decreased 5.7 per cent in the years 1923 to 1928 though the average number of employees per mine in 1928 was 113 as against 71 in 1923.

In Illinois, Indiana, and Ohio, however, the decrease in the number of mines has been accompanied by a decrease in production, number of employees, and days of operation, as follows:

TABLE 2.—PER CENT OF DECREASE IN NUMBER OF MINES, PRODUCTION, EMPLOYEES, AND DAYS OF OPERATION IN BITUMINOUS COAL MINES OF ILLINOIS, INDIANA, AND OHIO

| Item | Percentage of decrease, 1923 to 1929 | | |
|--------------------------|--------------------------------------|---------|------------------|
| | Illinois | Indiana | Ohio |
| Number of mines..... | 29.3 | 40.9 | 42.2 |
| Production..... | 19.1 | 52.4 | 64.1 |
| Number of employees..... | 43.4 | 60.7 | 63.0 |
| Days of operation..... | 9.0 | 2.4 | (¹) |

¹ Not reported.

That it is the smaller mines that are being squeezed out in West Virginia is indicated at least in a general way by the fact that the average number of employees per mine increased from 71 in 1923 to 113 in 1928. In Illinois, Indiana, and Ohio, however, the average number of employees per mine fell from 91 to 73, from 142 to 91, and from 43 to 34, respectively. In the shipping mines of Illinois the average number of employees per mine increased from 265 to 274. Too much reliance should not be placed upon changes in average number of employees as indicative of the type of mine being eliminated, since a change in the percentage of productive capacity utilized would show the same result without there having been any change in the number of mines operating. The extent to which this elimination of mines may go without interfering with an adequate total production is shown from an analysis, first, of the total number of mines in the United States reporting to the Bureau of Mines, and secondly, of the State reports, of which only two can be dealt with here—those of Illinois and West Virginia.

Of the 6,057 coal mines now reporting to the Bureau of Mines, 209 or 3.4 per cent, now produce 29.6 per cent of all coal reported; 618 mines or 10.2 per cent produce 35.6 per cent of the coal, another 10.9 per cent of the mines produce 17.9 per cent of the coal; in other words, 24.5 per cent of the mines now produce 83.1 per cent of the total tonnage while 75.5 per cent of the mines produce but 16.9 per cent of the coal, and 42 per cent produce but 1.5 per cent. It is safe to say that from 20 to 24 per cent of the mines could by operating to full capacity for 300 days per year produce all the coal now produced by all.

It is interesting to note what a difference full-time operation would make in the classification of mines. The West Virginia Coal Production Report for 1928 lists 866 mines. From this list 77 have been eliminated because they produced less than 1,000 tons each during the year, and 4 have been omitted because they did not report days in operation. This leaves 785 mines for study. These 785 mines produced 131,564,605 tons of coal. The following table classifies these mines by actual present short-time production and by possibilities under full-time production. Possibility of production does not assume any change in present equipment, it simply means full-time operation at present rate of achievement.

TABLE 3.—ACTUAL AND POSSIBLE COAL PRODUCTION OF 785 WEST VIRGINIA MINES IN 1928, BY CLASS OF MINES AND PRODUCTION GROUP

| Production group | All mines combined ¹ | | | | Machine-cutting mines | | | |
|--------------------------------|---------------------------------|---------------------------|--|-------------|--------------------------------------|---------------------------|--|-------------|
| | Mines producing in 1928 | | Possible production in year with full-time operation | | Mines producing in 1928 | | Possible production in year with full-time operation | |
| | Number | Production in year (tons) | Number of mines | Tons | Number | Production in year (tons) | Number of mines | Tons |
| 1,000,000 tons and over..... | 4 | 4,594,372 | 10 | 11,563,033 | | | 2 | 2,064,435 |
| 500,000 to 1,000,000 tons..... | 40 | 25,782,520 | 77 | 50,429,952 | 13 | 8,612,001 | 28 | 418,624,415 |
| 200,000 to 500,000 tons..... | 204 | 62,194,679 | 265 | 85,560,384 | 82 | 25,530,337 | 100 | 32,430,296 |
| 100,000 to 200,000 tons..... | 165 | 24,326,576 | 163 | 23,406,385 | 70 | 10,348,929 | 80 | 11,367,638 |
| 50,000 to 100,000 tons..... | 131 | 9,628,218 | 120 | 8,836,508 | 68 | 4,841,066 | 67 | 4,739,927 |
| 10,000 to 50,000 tons..... | 163 | 4,654,320 | 137 | 4,177,498 | 75 | 2,251,695 | 57 | 1,812,820 |
| Under 10,000 tons..... | 78 | 384,120 | 13 | 89,920 | 29 | 137,636 | 3 | 20,223 |
| Total..... | 785 | 131,564,605 | 785 | 184,063,680 | 337 | 51,721,694 | 337 | 71,059,754 |
| | Pick mines | | | | Mixed machine-cutting and pick mines | | | |
| 1,000,000 tons and over..... | | | | | 4 | 4,594,372 | 8 | 9,498,598 |
| 500,000 to 1,000,000 tons..... | | | | | 27 | 17,170,519 | 49 | 51,805,557 |
| 200,000 to 500,000 tons..... | 4 | 964,272 | 6 | 1,840,953 | 118 | 35,700,070 | 159 | 51,289,135 |
| 100,000 to 200,000 tons..... | 5 | 679,768 | 12 | 1,571,114 | 90 | 13,297,679 | 71 | 10,467,633 |
| 50,000 to 100,000 tons..... | 9 | 621,739 | 18 | 1,216,281 | 54 | 4,165,383 | 35 | 2,880,300 |
| 10,000 to 50,000 tons..... | 42 | 1,071,056 | 54 | 1,461,608 | 45 | 1,282,560 | 25 | 753,102 |
| Under 10,000 tons..... | 49 | 205,005 | 9 | 59,759 | 10 | 41,479 | 1 | 9,938 |
| Total..... | 99 | 3,541,840 | 99 | 6,149,715 | 348 | 76,252,062 | 348 | 106,704,243 |

¹ These totals include data for 1 strip mine which is not shown separately in this table.

It will be noted in Table 3 that while only 4 mines in West Virginia produced 1,000,000 or more tons each in 1928, there are 10 that could have done so. While 40 mines produced from 500,000 to 1,000,000 tons, 77 could by full-time operation have come within this classification. On the other hand, while only 13 mines were limited to the "under 10,000 tons" group by reason of equipment or production facilities, 78 were forced into this lowest output group by short-time operation.

If to the 87 mines, which with full-time production would have fallen in the first two production groups, be added 196 of the better mines of the third group, making 283 mines or 36 per cent of the number operating, these could have produced by full-time operation all the coal actually produced by all the mines included in this study for 1928. If the entire number of mines shown in the table had operated full time they would have produced 52,499,075 tons (or practically 40 per cent) more coal than they did. This is for all mines combined; but if we divide them up by types of mines, such as machine-cutting mines, pick mines, etc., we get the same general results.

In considering the situation in Illinois (Table 4), only the 200 "shipping mines" have been used. Of these, 30 could produce with present equipment on full time 1,000,000 tons or more each, while because of short-time operation only 8 actually do so. Only 2 mines are held within the "under 10,000 tons" group by reason of inability to produce more, while 16 come within the group by reason of short time. It would require but 41 of the 200 shipping mines in Illinois to produce all the coal that all now produce.

TABLE 4.—ACTUAL AND POSSIBLE COAL PRODUCTION IN 200 ILLINOIS "SHIPPING MINES" IN 1929, BY CLASS OF MINES AND PRODUCTION GROUP

| Production group | All shipping mines combined | | | | Machine-cutting mines | | | |
|------------------------------|-----------------------------|---------------------------|-----------------------------|-------------|--------------------------------------|---------------------------|-----------------------------|------------|
| | Mines producing in 1929 | | Possible production in year | | Mines producing in 1929 | | Possible production in year | |
| | Number | Production in year (tons) | Number of mines | Tons | Number | Production in year (tons) | Number of mines | Tons |
| 1,000,000 tons and over..... | 8 | 10,145,123 | 30 | 43,239,690 | 5 | 6,393,870 | 16 | 24,173,413 |
| 500,000-1,000,000 tons..... | 35 | 24,906,943 | 45 | 32,138,008 | 21 | 14,732,101 | 27 | 20,033,604 |
| 200,000-500,000 tons..... | 49 | 16,235,370 | 53 | 18,697,926 | 26 | 8,661,003 | 25 | 8,814,880 |
| 100,000-200,000 tons..... | 32 | 4,658,608 | 35 | 5,070,605 | 16 | 2,390,786 | 13 | 1,911,956 |
| 50,000-100,000 tons..... | 31 | 2,171,540 | 17 | 1,357,295 | 11 | 795,229 | 7 | 513,286 |
| 10,000-50,000 tons..... | 29 | 878,852 | 18 | 520,733 | 11 | 386,120 | 9 | 265,578 |
| Under 10,000 tons..... | 16 | 79,559 | 2 | 17,932 | 8 | 32,401 | 1 | 7,999 |
| Total..... | 200 | 59,075,995 | 200 | 101,042,189 | 98 | 33,391,510 | 98 | 55,720,716 |
| Pick mines | | | | | Mixed machine-cutting and pick mines | | | |
| 1,000,000 tons and over..... | | | 1 | 1,168,222 | 3 | 3,751,253 | 12 | 16,876,155 |
| 500,000-1,000,000 tons..... | 3 | 1,949,879 | 4 | 2,939,821 | 7 | 5,407,334 | 9 | 5,789,642 |
| 200,000-500,000 tons..... | 4 | 1,304,946 | 12 | 4,300,946 | 13 | 4,427,043 | 7 | 1,998,073 |
| 100,000-200,000 tons..... | 7 | 1,125,035 | 12 | 1,695,618 | 6 | 734,342 | 9 | 1,290,732 |
| 50,000-100,000 tons..... | 12 | 820,141 | 7 | 612,808 | 6 | 417,894 | 2 | 178,501 |
| 10,000-50,000 tons..... | 13 | 310,692 | 9 | 255,155 | 4 | 141,367 | | |
| Under 10,000 tons..... | 7 | 44,058 | 1 | 9,933 | | | | |
| Total..... | 46 | 5,554,751 | 46 | 10,982,503 | 39 | 14,879,233 | 39 | 26,133,103 |
| Strip mines | | | | | | | | |
| 1,000,000 and over..... | | | 1 | 1,021,900 | | | | |
| 500,000-1,000,000 tons..... | 4 | 2,817,629 | 5 | 3,374,941 | | | | |
| 200,000-500,000 tons..... | 6 | 1,842,378 | 9 | 3,584,027 | | | | |
| 100,000-200,000 tons..... | 3 | 408,445 | 1 | 172,299 | | | | |
| 50,000-100,000 tons..... | 2 | 138,276 | 1 | 52,700 | | | | |
| 10,000-50,000 tons..... | 1 | 40,673 | | | | | | |
| Under 10,000 tons..... | 1 | 3,100 | | | | | | |
| Total..... | 17 | 5,250,501 | 17 | 8,205,867 | | | | |

The statement is frequently made that, owing to the large overhead expense, no bituminous coal mine can be profitably operated with an output of less than 400,000 tons per year. There is as great a range in overhead and operating expense per ton of product as in any other feature of the industry. In the estimate of the number of mines required to produce the entire present output in West Virginia, all of the mines capable of producing 250,000 tons on full time are included. Adjustment of overhead to tonnage should be one of the industry's easiest problems to solve, recognizing, of course, that a reasonable basic tonnage is necessary over which to spread the most economic administration cost.

Productivity of Labor in West Virginia and Illinois Mines

AN ELEMENT in the competitive struggle is, of course, the inequalities, as between mines, of productive capacity per man, growing out of mining systems, methods, conditions, or other reasons. The tremendous range in productivity per man-day shown for the various States in an article in the Labor Review for December, 1930 (p. 37), together with the range by counties for Illinois, is here supplemented by a study of these facts for individual mines in the States of Illinois and West Virginia. The calculations as here tabulated were made from material presented in the report on Coal Mines in Illinois, 1929,

and the annual report of the Department of Mines of West Virginia for 1928.

One mine in Illinois produces 40 tons per actual coal miner per day, another mine continues to operate though producing but 2 tons per miner per day. While these are single mines and may have some "freak" conditions, nevertheless the variation in groups containing several mines is sufficient to raise the question as to how mines with such a difference in productivity per man can exist within the confines of a single State, especially in a State with the transportation facilities of Illinois. It must be remembered that only "shipping mines" are included in this analysis for Illinois.

The following tables are believed to be self-explanatory.

TABLE 5.—ACTUAL AND POSSIBLE COAL PRODUCTION IN 200¹ ILLINOIS "SHIPPING MINES" IN 1929, BY CLASS OF MINES AND OUTPUT PER MAN (ALL EMPLOYEES) PER DAY

| Output per man per day | All shipping mines combined | | | | Machine-cutting mines | | | |
|------------------------|-----------------------------|---------------------|-----------------------|--|--------------------------------------|---------------------|-----------------------|--|
| | Number of mines | Number of employees | Tons produced in year | Possible production (tons) in 306 days | Number of mines | Number of employees | Tons produced in year | Possible production (tons) in 306 days |
| 26 and under 27 tons | 1 | 55 | 80, 280 | 433, 673 | | | | |
| 23 and under 24 tons | 2 | 165 | 1, 098, 300 | 1, 207, 334 | | | | |
| 21 and under 22 tons | 3 | 170 | 583, 421 | 1, 111, 490 | | | | |
| 20 and under 21 tons | 1 | 69 | 128, 383 | 427, 013 | | | | |
| 19 and under 20 tons | 1 | 175 | 931, 732 | 1, 021, 900 | | | | |
| 17 and under 18 tons | 1 | 83 | 374, 288 | 445, 650 | | | | |
| 16 and under 17 tons | 2 | 150 | 150, 764 | 751, 926 | 1 | 80 | 110, 091 | 396, 328 |
| 14 and under 15 tons | 1 | 145 | 509, 138 | 628, 211 | | | | |
| 13 and under 14 tons | 3 | 419 | 1, 092, 691 | 1, 726, 432 | | | | |
| 11 and under 12 tons | 2 | 305 | 355, 111 | 1, 088, 991 | | | | |
| 10 and under 11 tons | 1 | 17 | 3, 100 | 52, 700 | | | | |
| 9 and under 10 tons | 5 | 995 | 1, 592, 527 | 2, 832, 045 | 4 | 936 | 1, 534, 531 | 2, 659, 746 |
| 8 and under 9 tons | 7 | 2, 115 | 3, 525, 187 | 5, 404, 635 | 4 | 1, 231 | 1, 946, 240 | 3, 156, 949 |
| 7 and under 8 tons | 18 | 6, 562 | 8, 889, 369 | 14, 829, 652 | 13 | 5, 265 | 7, 017, 665 | 11, 960, 561 |
| 6 and under 7 tons | 32 | 9, 831 | 10, 517, 670 | 19, 705, 144 | 21 | 7, 491 | 8, 867, 006 | 15, 199, 309 |
| 5 and under 6 tons | 43 | 17, 361 | 16, 987, 028 | 29, 071, 386 | 22 | 8, 451 | 9, 079, 054 | 14, 034, 563 |
| 4 and under 5 tons | 37 | 11, 337 | 9, 890, 546 | 15, 790, 302 | 15 | 4, 289 | 3, 744, 718 | 6, 111, 662 |
| 3 and under 4 tons | 20 | 2, 789 | 1, 515, 389 | 3, 061, 646 | 11 | 1, 498 | 778, 868 | 1, 632, 222 |
| 2 and under 3 tons | 13 | 1, 474 | 635, 605 | 1, 083, 184 | 6 | 759 | 312, 187 | 551, 377 |
| 1 and under 2 tons | 7 | 619 | 215, 466 | 363, 875 | 1 | 14 | 1, 150 | 7, 999 |
| Total | 200 | 54, 836 | 59, 075, 995 | 101, 042, 189 | 98 | 30, 014 | 33, 391, 510 | 55, 720, 716 |
| | Pick mines | | | | Mixed machine-cutting and pick mines | | | |
| | Number of mines | Number of employees | Tons produced in year | Possible production (tons) in 306 days | Number of mines | Number of employees | Tons produced in year | Possible production (tons) in 306 days |
| 13 and under 14 tons | 1 | 113 | 4, 612 | 470, 424 | | | | |
| 8 and under 9 tons | 1 | 116 | 29, 963 | 305, 623 | 2 | 768 | 1, 548, 984 | 1, 942, 063 |
| 7 and under 8 tons | 1 | 66 | 67, 802 | 144, 079 | 4 | 1, 231 | 1, 803, 902 | 2, 725, 012 |
| 6 and under 7 tons | 5 | 469 | 221, 544 | 993, 132 | 6 | 1, 871 | 1, 429, 129 | 3, 602, 703 |
| 5 and under 6 tons | 9 | 1, 619 | 1, 476, 503 | 2, 664, 836 | 12 | 7, 291 | 6, 431, 471 | 12, 371, 987 |
| 4 and under 5 tons | 13 | 3, 766 | 2, 957, 281 | 4, 876, 556 | 9 | 3, 282 | 3, 188, 547 | 4, 802, 084 |
| 3 and under 4 tons | 5 | 855 | 437, 123 | 966, 846 | 4 | 435 | 299, 398 | 462, 578 |
| 2 and under 3 tons | 5 | 396 | 145, 607 | 295, 131 | 2 | 319 | 177, 811 | 226, 676 |
| 1 and under 2 tons | 6 | 605 | 214, 316 | 355, 876 | | | | |
| Total | 46 | 8, 005 | 5, 554, 751 | 10, 982, 503 | 39 | 15, 197 | 14, 879, 233 | 26, 133, 103 |
| | Strip mines | | | | | | | |
| | Number of mines | Number of employees | Tons produced in year | Possible production (tons) in 306 days | Number of mines | Number of employees | Tons produced in year | Possible production (tons) in 306 days |
| 26 and under 27 tons | 1 | 55 | 80, 280 | 433, 673 | | | | |
| 23 and under 24 tons | 2 | 165 | 1, 098, 300 | 1, 207, 334 | | | | |
| 21 and under 22 tons | 3 | 170 | 583, 421 | 1, 111, 490 | | | | |
| 20 and under 21 tons | 1 | 69 | 128, 383 | 427, 013 | | | | |
| 19 and under 20 tons | 1 | 175 | 931, 732 | 1, 021, 900 | | | | |
| 17 and under 18 tons | 1 | 83 | 374, 288 | 445, 650 | | | | |
| 16 and under 17 tons | 1 | 70 | 40, 673 | 355, 598 | | | | |
| 14 and under 15 tons | 1 | 145 | 509, 138 | 628, 211 | | | | |
| 13 and under 14 tons | 2 | 306 | 1, 088, 079 | 1, 256, 008 | | | | |
| 11 and under 12 tons | 2 | 305 | 355, 111 | 1, 088, 991 | | | | |
| 10 and under 11 tons | 1 | 17 | 3, 100 | 52, 700 | | | | |
| 9 and under 10 tons | 1 | 59 | 57, 996 | 172, 299 | | | | |
| Total | 17 | 1, 619 | 5, 250, 591 | 8, 205, 867 | | | | |

¹ Includes 1 mine closed.

TABLE 6.—ACTUAL AND POSSIBLE COAL PRODUCTION IN 199 ILLINOIS "SHIPPING MINES" IN 1929, BY CLASS OF MINES AND CLASSIFIED OUTPUT PER COAL GETTER (MINERS, LOADERS, AND SHOT FIRERS) PER DAY

| Output per coal getter per day | Machine-cutting mines | | | | Pick mines | | | |
|--------------------------------|--------------------------------------|------------------------|-----------------------|--|-----------------|------------------------|-----------------------|--|
| | Number of mines | Number of coal getters | Tons produced in year | Possible production (tons) in 306 days | Number of mines | Number of coal getters | Tons produced in year | Possible production (tons) in 306 days |
| 40 and under 41 tons | 1 | 83 | 565,094 | 1,029,278 | | | | |
| 36 and under 37 tons | 1 | 53 | 363,900 | 589,171 | | | | |
| 35 and under 36 tons | 1 | 36 | 110,091 | 396,328 | | | | |
| 29 and under 30 tons | 1 | 22 | 102,451 | 198,418 | | | | |
| 27 and under 28 tons | 1 | 47 | 221,137 | 393,418 | | | | |
| 23 and under 24 tons | 1 | 147 | 708,899 | 1,063,349 | | | | |
| 22 and under 23 tons | 2 | 193 | 686,899 | 1,307,307 | | | | |
| 21 and under 22 tons | 1 | 16 | 44,147 | 103,915 | | | | |
| 18 and under 19 tons | | | | | 1 | 85 | 4,612 | 470,424 |
| 17 and under 18 tons | 1 | 6 | 5,017 | 31,983 | | | | |
| 16 and under 17 tons | 1 | 200 | 632,107 | 991,922 | | | | |
| 15 and under 16 tons | 4 | 490 | 1,259,641 | 2,330,405 | | | | |
| 14 and under 15 tons | 4 | 1,144 | 3,471,417 | 5,145,994 | | | | |
| 13 and under 14 tons | 2 | 120 | 408,736 | 499,944 | | | | |
| 12 and under 13 tons | 5 | 809 | 2,096,144 | 3,042,037 | | | | |
| 11 and under 12 tons | 5 | 833 | 1,856,859 | 2,861,946 | | | | |
| 10 and under 11 tons | 8 | 2,462 | 5,007,840 | 7,845,889 | 3 | 177 | 157,693 | 577,049 |
| 9 and under 10 tons | 6 | 1,614 | 2,114,631 | 4,693,862 | 1 | 36 | 56,186 | 99,959 |
| 8 and under 9 tons | 12 | 3,116 | 4,504,007 | 8,176,700 | 4 | 317 | 165,358 | 803,173 |
| 7 and under 8 tons | 14 | 3,471 | 5,102,458 | 7,913,772 | 6 | 539 | 587,485 | 1,214,571 |
| 6 and under 7 tons | 11 | 2,612 | 3,130,398 | 5,303,489 | 10 | 1,853 | 2,238,380 | 3,613,846 |
| 5 and under 6 tons | 5 | 263 | 184,931 | 445,535 | 7 | 1,577 | 1,570,000 | 2,639,299 |
| 4 and under 5 tons | 6 | 565 | 510,469 | 810,895 | 5 | 724 | 431,913 | 1,047,772 |
| 3 and under 4 tons | 5 | 517 | 304,237 | 545,159 | 2 | 46 | 36,189 | 47,168 |
| 2 and under 3 tons | | | | | 6 | 595 | 303,916 | 459,309 |
| Total | 98 | 18,819 | 33,391,510 | 55,720,716 | 45 | 5,949 | 5,551,732 | 10,972,570 |
| | Mixed machine-cutting and pick mines | | | | Strip mines | | | |
| | Number of mines | Number of coal getters | Tons produced in year | Possible production (tons) in 306 days | Number of mines | Number of coal getters | Tons produced in year | Possible production (tons) in 306 days |
| 28 and under 29 tons | 1 | 63 | 264,981 | 547,866 | 1 | 55 | 80,280 | 438,673 |
| 26 and under 27 tons | | | | | 2 | 165 | 1,098,300 | 1,207,334 |
| 23 and under 24 tons | | | | | 3 | 170 | 583,421 | 1,111,490 |
| 21 and under 22 tons | | | | | 1 | 69 | 128,383 | 427,013 |
| 20 and under 21 tons | | | | | 1 | 175 | 931,732 | 1,021,900 |
| 19 and under 20 tons | 1 | 226 | 989,541 | 1,382,646 | | | | |
| 18 and under 19 tons | 1 | 322 | 1,448,364 | 1,816,391 | | | | |
| 17 and under 18 tons | | | | | 1 | 83 | 374,288 | 445,650 |
| 16 and under 17 tons | | | | | 1 | 70 | 40,673 | 355,598 |
| 14 and under 15 tons | | | | | 1 | 145 | 509,138 | 628,211 |
| 13 and under 14 tons | 1 | 31 | 100,620 | 125,672 | 2 | 306 | 1,088,079 | 1,256,008 |
| 12 and under 13 tons | 2 | 198 | 416,395 | 743,051 | | | | |
| 11 and under 12 tons | 3 | 606 | 1,370,568 | 2,110,121 | 2 | 305 | 355,111 | 1,088,991 |
| 10 and under 11 tons | 3 | 662 | 1,117,533 | 2,155,389 | 1 | 17 | 3,100 | 52,700 |
| 9 and under 10 tons | 2 | 170 | 322,117 | 479,735 | 1 | 59 | 57,996 | 172,299 |
| 8 and under 9 tons | 6 | 2,696 | 3,124,229 | 6,829,129 | | | | |
| 7 and under 8 tons | 8 | 3,376 | 4,290,701 | 7,787,046 | | | | |
| 6 and under 7 tons | 4 | 569 | 682,771 | 1,114,255 | | | | |
| 5 and under 6 tons | 2 | 276 | 357,321 | 476,615 | | | | |
| 4 and under 5 tons | 3 | 243 | 216,281 | 338,511 | | | | |
| 3 and under 4 tons | 1 | 70 | 69,122 | 83,934 | | | | |
| 2 and under 3 tons | 1 | 168 | 108,689 | 142,742 | | | | |
| Total | 39 | 9,676 | 14,879,233 | 26,133,103 | 17 | 1,619 | 5,250,501 | 8,205,867 |

TABLE 7.—ACTUAL AND POSSIBLE COAL PRODUCTION IN 785 WEST VIRGINIA MINES IN 1928, BY CLASS OF MINES AND CLASSIFIED OUTPUT PER MAN (ALL EMPLOYEES) PER DAY

| Output per man per day | All mines combined | | | | Machine-cutting mines | | | |
|------------------------|--------------------|---------------------|-----------------------|--|--------------------------------------|---------------------|-----------------------|--|
| | Number of mines | Number of employees | Tons produced in year | Possible production (tons) in 306 days | Number of mines | Number of employees | Tons produced in year | Possible production (tons) in 306 days |
| 23 and under 24 tons | 1 | 13 | 311, 555 | 953, 358 | 1 | 13 | 311, 555 | 953, 358 |
| 20 and under 21 tons | 1 | 36 | 146, 979 | 221, 555 | | | | |
| 17 and under 18 tons | 1 | 6 | 15, 222 | 32, 347 | 1 | 6 | 15, 222 | 32, 347 |
| 15 and under 16 tons | 1 | 271 | 751, 174 | 1, 269, 941 | | | | |
| 14 and under 15 tons | 3 | 155 | 472, 475 | 704, 114 | 1 | 140 | 460, 877 | 638, 137 |
| 13 and under 14 tons | 5 | 327 | 738, 594 | 1, 366, 264 | 1 | 97 | 372, 934 | 401, 823 |
| 12 and under 13 tons | 3 | 324 | 614, 671 | 1, 264, 303 | 1 | 55 | 21, 978 | 210, 165 |
| 11 and under 12 tons | 3 | 205 | 405, 530 | 699, 604 | | | | |
| 10 and under 11 tons | 12 | 1, 465 | 2, 570, 729 | 4, 743, 640 | 5 | 581 | 936, 253 | 1, 900, 282 |
| 9 and under 10 tons | 17 | 2, 451 | 4, 544, 602 | 7, 077, 964 | 8 | 1, 511 | 3, 059, 883 | 4, 353, 284 |
| 8 and under 9 tons | 28 | 3, 248 | 5, 593, 058 | 8, 482, 539 | 14 | 1, 628 | 2, 928, 273 | 4, 182, 198 |
| 7 and under 8 tons | 60 | 8, 444 | 11, 303, 947 | 19, 361, 015 | 19 | 2, 558 | 3, 402, 041 | 5, 902, 463 |
| 6 and under 7 tons | 112 | 14, 619 | 20, 018, 989 | 28, 913, 331 | 48 | 6, 033 | 8, 399, 606 | 11, 853, 451 |
| 5 and under 6 tons | 161 | 26, 906 | 33, 582, 431 | 44, 733, 230 | 68 | 9, 200 | 11, 748, 565 | 15, 080, 812 |
| 4 and under 5 tons | 177 | 27, 818 | 30, 650, 194 | 38, 648, 912 | 77 | 10, 588 | 11, 719, 135 | 14, 865, 823 |
| 3 and under 4 tons | 135 | 19, 123 | 16, 347, 012 | 20, 879, 706 | 55 | 7, 407 | 6, 637, 154 | 8, 264, 480 |
| 2 and under 3 tons | 50 | 5, 190 | 3, 297, 795 | 4, 389, 039 | 30 | 2, 721 | 1, 643, 750 | 2, 260, 691 |
| 1 and under 2 tons | 13 | 614 | 190, 344 | 298, 166 | 7 | 282 | 60, 383 | 143, 773 |
| Under 1 ton | 2 | 94 | 9, 304 | 24, 652 | 1 | 57 | 4, 085 | 16, 667 |
| Total | 785 | 111, 309 | 131, 564, 605 | 184, 063, 680 | 337 | 43, 147 | 51, 721, 694 | 71, 059, 754 |
| | Pick mines | | | | Mixed machine-cutting and pick mines | | | |
| | | | | | | | | |
| 20 and under 21 tons | | | | | 1 | 36 | 146, 979 | 221, 555 |
| 15 and under 16 tons | | | | | 1 | 271 | 751, 174 | 1, 269, 941 |
| 14 and under 15 tons | 2 | 15 | 11, 598 | 65, 977 | | | | |
| 13 and under 14 tons | | | | | 4 | 230 | 365, 660 | 964, 441 |
| 12 and under 13 tons | | | | | 1 | 229 | 543, 684 | 904, 170 |
| 11 and under 12 tons | 1 | 20 | 34, 535 | 70, 451 | 2 | 185 | 370, 995 | 629, 173 |
| 10 and under 11 tons | 2 | 15 | 10, 134 | 46, 471 | 5 | 869 | 1, 624, 342 | 2, 796, 887 |
| 9 and under 10 tons | 1 | 41 | 34, 253 | 123, 311 | 8 | 899 | 1, 450, 466 | 2, 601, 369 |
| 8 and under 9 tons | | | | | 14 | 1, 620 | 2, 664, 785 | 4, 300, 341 |
| 7 and under 8 tons | 6 | 142 | 101, 030 | 330, 911 | 35 | 5, 744 | 7, 800, 876 | 13, 127, 641 |
| 6 and under 7 tons | 12 | 306 | 327, 460 | 593, 997 | 52 | 8, 280 | 11, 291, 923 | 16, 465, 883 |
| 5 and under 6 tons | 19 | 779 | 711, 283 | 1, 349, 604 | 74 | 16, 927 | 21, 122, 583 | 28, 302, 814 |
| 4 and under 5 tons | 22 | 1, 156 | 1, 043, 307 | 1, 554, 899 | 78 | 15, 804 | 17, 887, 752 | 22, 228, 190 |
| 3 and under 4 tons | 26 | 1, 718 | 1, 218, 316 | 1, 837, 825 | 54 | 9, 998 | 8, 491, 542 | 10, 777, 401 |
| 2 and under 3 tons | 5 | 92 | 28, 925 | 150, 609 | 15 | 2, 377 | 1, 625, 120 | 1, 977, 739 |
| 1 and under 2 tons | 2 | 33 | 15, 780 | 17, 675 | 4 | 299 | 114, 181 | 136, 718 |
| Under 1 ton | 1 | 37 | 5, 219 | 7, 985 | | | | |
| Total | 99 | 4, 354 | 3, 541, 840 | 6, 149, 715 | 348 | 63, 768 | 76, 252, 062 | 106, 704, 243 |
| | Strip mines | | | | | | | |
| | | | | | | | | |
| 12 and under 13 tons | 1 | 40 | 49, 009 | 149, 968 | | | | |

TABLE 8.—ACTUAL AND POSSIBLE COAL PRODUCTION IN 784 WEST VIRGINIA MINES IN 1928, BY CLASS OF MINES AND CLASSIFIED OUTPUT PER COAL GETTER (MINERS, MACHINE RUNNERS, AND HELPERS) PER DAY

| Output per coal getter per day | All mines combined | | | | Machine-cutting mines | | | |
|--------------------------------|--------------------|------------------------|-----------------------|--|--------------------------------------|------------------------|-----------------------|--|
| | Number of mines | Number of coal getters | Tons produced in year | Possible production (tons) in 306 days | Number of mines | Number of coal getters | Tons produced in year | Possible production (tons) in 306 days |
| 38 and under 39 tons | 1 | 8 | 311, 555 | 953, 358 | 1 | 8 | 311, 555 | 953, 358 |
| 36 and under 37 tons | 1 | 57 | 460, 877 | 638, 137 | 1 | 57 | 460, 877 | 638, 137 |
| 27 and under 28 tons | 1 | 26 | 146, 979 | 221, 555 | | | | |
| 26 and under 27 tons | 1 | 5 | 9, 379 | 39, 861 | | | | |
| 23 and under 24 tons | 3 | 121 | 364, 590 | 861, 433 | 2 | 54 | 165, 721 | 389, 697 |
| 21 and under 22 tons | 4 | 250 | 1, 161, 038 | 1, 651, 984 | 3 | 228 | 1, 126, 720 | 1, 508, 130 |
| 20 and under 21 tons | 3 | 228 | 908, 434 | 1, 448, 916 | 2 | 87 | 364, 750 | 544, 746 |
| 19 and under 20 tons | 3 | 289 | 1, 059, 672 | 1, 739, 607 | 1 | 46 | 226, 699 | 278, 594 |
| 18 and under 19 tons | 4 | 242 | 1, 113, 264 | 1, 360, 358 | | | | |
| 17 and under 18 tons | 7 | 373 | 1, 105, 963 | 1, 981, 789 | 5 | 287 | 821, 119 | 1, 521, 212 |
| 16 and under 17 tons | 21 | 1, 765 | 5, 241, 294 | 8, 950, 350 | 10 | 832 | 2, 651, 266 | 4, 225, 592 |
| 15 and under 16 tons | 12 | 802 | 2, 653, 829 | 3, 771, 879 | 7 | 499 | 1, 595, 220 | 2, 350, 974 |
| 14 and under 15 tons | 22 | 1, 775 | 5, 136, 764 | 7, 781, 050 | 10 | 950 | 3, 018, 870 | 4, 152, 916 |
| 13 and under 14 tons | 27 | 2, 330 | 5, 936, 515 | 9, 535, 941 | 13 | 934 | 2, 494, 740 | 3, 794, 307 |
| 12 and under 13 tons | 52 | 4, 455 | 11, 653, 072 | 17, 113, 462 | 20 | 1, 421 | 3, 862, 908 | 5, 452, 230 |
| 11 and under 12 tons | 57 | 5, 361 | 14, 027, 938 | 18, 752, 186 | 30 | 2, 680 | 6, 965, 095 | 9, 355, 857 |
| 10 and under 11 tons | 72 | 6, 490 | 15, 118, 353 | 20, 877, 322 | 27 | 2, 071 | 4, 850, 893 | 6, 652, 946 |
| 9 and under 10 tons | 63 | 5, 182 | 10, 342, 381 | 14, 804, 385 | 19 | 930 | 1, 799, 107 | 2, 445, 175 |
| 8 and under 9 tons | 102 | 8, 924 | 17, 949, 511 | 23, 211, 225 | 36 | 2, 561 | 5, 283, 033 | 6, 644, 584 |
| 7 and under 8 tons | 90 | 8, 012 | 13, 753, 229 | 18, 377, 570 | 40 | 3, 084 | 5, 515, 910 | 7, 130, 332 |
| 6 and under 7 tons | 86 | 7, 747 | 12, 419, 386 | 15, 467, 621 | 33 | 2, 658 | 4, 326, 062 | 5, 262, 694 |
| 5 and under 6 tons | 64 | 4, 618 | 6, 420, 863 | 8, 263, 647 | 29 | 1, 946 | 2, 659, 683 | 3, 281, 829 |
| 4 and under 5 tons | 45 | 3, 385 | 3, 388, 738 | 4, 783, 775 | 27 | 2, 618 | 2, 757, 309 | 3, 726, 540 |
| 3 and under 4 tons | 26 | 749 | 576, 297 | 950, 746 | 12 | 464 | 365, 526 | 560, 968 |
| 2 and under 3 tons | 10 | 278 | 141, 288 | 207, 784 | 5 | 117 | 48, 690 | 97, 226 |
| 1 and under 2 tons | 7 | 308 | 114, 387 | 167, 771 | 4 | 174 | 49, 941 | 91, 710 |
| Total | 784 | 63, 786 | 131, 515, 596 | 183, 913, 712 | 337 | 24, 706 | 51, 721, 694 | 71, 059, 754 |
| | Pick mines | | | | Mixed machine-cutting and pick mines | | | |
| | | | | | | | | |
| 27 and under 28 tons | | | | | 1 | 26 | 146, 979 | 221, 555 |
| 26 and under 27 tons | 1 | 5 | 9, 379 | 39, 861 | | | | |
| 23 and under 24 tons | | | | | 1 | 67 | 198, 869 | 471, 736 |
| 21 and under 22 tons | | | | | 1 | 22 | 34, 318 | 143, 854 |
| 20 and under 21 tons | | | | | 1 | 141 | 543, 684 | 904, 170 |
| 19 and under 20 tons | | | | | 2 | 243 | 832, 973 | 1, 461, 013 |
| 18 and under 19 tons | | | | | 4 | 242 | 1, 113, 264 | 1, 360, 358 |
| 17 and under 18 tons | | | | | 2 | 86 | 284, 844 | 460, 577 |
| 16 and under 17 tons | 2 | 39 | 68, 788 | 193, 762 | 9 | 894 | 2, 521, 240 | 4, 530, 996 |
| 15 and under 16 tons | 1 | 4 | 6, 000 | 18, 360 | 4 | 299 | 1, 052, 609 | 1, 402, 545 |
| 14 and under 15 tons | 2 | 11 | 3, 485 | 47, 638 | 10 | 814 | 2, 114, 409 | 3, 580, 496 |
| 13 and under 14 tons | 1 | 7 | 4, 134 | 28, 111 | 13 | 1, 389 | 3, 437, 641 | 5, 713, 523 |
| 12 and under 13 tons | 7 | 213 | 498, 365 | 814, 866 | 25 | 2, 821 | 7, 291, 799 | 10, 846, 366 |
| 11 and under 12 tons | 6 | 194 | 371, 224 | 668, 255 | 21 | 2, 487 | 6, 691, 619 | 8, 728, 074 |
| 10 and under 11 tons | 6 | 409 | 849, 724 | 1, 306, 894 | 39 | 4, 016 | 9, 417, 736 | 12, 917, 482 |
| 9 and under 10 tons | 7 | 131 | 200, 612 | 375, 936 | 37 | 4, 121 | 8, 342, 662 | 11, 983, 274 |
| 8 and under 9 tons | 13 | 319 | 492, 681 | 814, 229 | 53 | 6, 044 | 12, 173, 797 | 15, 752, 412 |
| 7 and under 8 tons | 12 | 206 | 317, 939 | 463, 480 | 38 | 4, 722 | 7, 919, 380 | 10, 783, 758 |
| 6 and under 7 tons | 14 | 317 | 379, 734 | 637, 906 | 39 | 4, 772 | 7, 713, 590 | 9, 567, 021 |
| 5 and under 6 tons | 9 | 129 | 111, 701 | 218, 368 | 26 | 2, 543 | 3, 649, 479 | 4, 763, 450 |
| 4 and under 5 tons | 9 | 237 | 167, 936 | 345, 771 | 9 | 530 | 463, 493 | 711, 464 |
| 3 and under 4 tons | 6 | 66 | 39, 139 | 150, 618 | 8 | 219 | 171, 632 | 239, 160 |
| 2 and under 3 tons | 1 | 22 | 14, 706 | 16, 246 | 4 | 139 | 77, 892 | 94, 312 |
| 1 and under 2 tons | 2 | 22 | 6, 293 | 9, 414 | 1 | 112 | 58, 153 | 66, 647 |
| Total | 99 | 2, 331 | 3, 541, 840 | 6, 149, 715 | 348 | 36, 749 | 76, 252, 062 | 106, 704, 243 |

UNEMPLOYMENT AND ITS RELIEF

Unemployment Insurance System of Great Britain ¹

THE problem of unemployment had received consideration in Great Britain before the war, when seasonal and temporary fluctuations were sufficient to create a problem of some importance. The pre-war situation can hardly be compared, however, with the postwar unemployment problem, which has confronted this country continuously throughout the past decade and which has become serious, both socially and financially. Pre-war unemployment was of two types, namely the seasonal which was especially striking in the building trades, and secondly, unemployment due to trade-cycle fluctuations which were also temporary, though less frequent. The desirability of keeping intact a supply of highly skilled labor sufficient to meet the demand at the best seasons and the most active periods of industry was considered important, and the problem received a considerable amount of study. It was estimated that seasonal unemployment affected on the average between $4\frac{1}{2}$ and $5\frac{1}{2}$ per cent of the labor force throughout the country before the war.

The postwar problem has had added to the two types of unemployment a number of factors which have proved to be of far greater importance. The immediate problem at the close of the war was one of readjustment from war conditions. In the first place, large numbers of soldiers were being dismissed from the forces, munition makers and other workers in trades providing war materials were also thrown on the market, while there was also an abnormally large labor supply in the coal mining, engineering, shipbuilding, and iron and steel industries.

This problem was met partly by "out-of-work donations," described in a later page of this report, and later by the extension of the national unemployment insurance scheme. The redistribution of the labor supply which was inflated in the heavy industries has proved particularly difficult and can not be said to have been fully accomplished yet.

Added to this, there has been a prolonged depression, not in all of Great Britain's trades, but in her principal industries, owing to curtailment in world markets, financial difficulties arising out of overcapitalization in the 1920 boom, and consequent high costs of production. The cotton industry has been depressed constantly since 1920 for all these reasons, while the woolen trades and coal mining have suffered from a curtailment in world demand, and the iron and steel and shipbuilding industries have suffered from increased capacity during the war, not only in Great Britain but in competing producing countries.

Another factor which has assisted to create a large body of unemployed persons during the whole of the past decade is that emigration

¹ This article was prepared by K. A. H. Egerton, of the American consulate at London. Slight editorial changes have been made by the Bureau of Labor Statistics.

has been very much curtailed as compared with pre-war years. Emigration in 1913 was about three times as great as in 1928.

In addition, changes in the birth rates and survival rates during the past 40 years have caused an unusually large number of persons to come to employable age during the whole of the past decade, while those going out of employment have been fewer.

As a result, although there has been an almost constant, though very gradual increase in the number of workers actually employed in the United Kingdom since 1920, there has, at the same time, been almost constantly since 1921, a total of over a million unemployed persons.

The present acute crisis has brought the number of unemployed to 2,300,000 (October 27, 1930), and the number actually employed has fallen from 10,300,000 (the average for the third quarter of 1929) to 9,690,000 (the average for the third quarter of 1930). Even this figure, however, compares favorably with the total estimated as in employment at July, 1923, being about 473,000 greater, and there are even now probably more workers employed than before the war. (These figures exclude agricultural workers and domestic servants, who are not covered by the unemployment insurance scheme.)

Unemployment Insurance

Original Purpose of Unemployment Insurance Scheme

THE unemployment insurance scheme in Great Britain was originally designed to take care of seasonal and temporary unemployment caused on the one hand by seasonal changes in trades, such as the building trade, and on the other, by fluctuations in the industrial position. The scheme operated only two-and-a-half years, however, before the war, and the whole period since the outbreak of the war has been abnormal.

The original unemployment insurance scheme was a part of the movement in social legislation which took place around the year 1911. The Royal Commission on the Poor Law, which reported in February, 1909, recommended among other things, the establishment by the State of a national system of labor exchanges for the purpose of assisting the mobility of labor and of collecting accurate information on unemployment. It also recommended the establishment of the compulsory unemployment insurance system based on contributions from employer, worker, and the national exchequer. In accordance with these recommendations, labor exchanges (later called employment exchanges) were established in 1909, and in 1911 a national insurance act provided for a partial scheme of compulsory insurance against unemployment. The scheme applied to a few specified trades only, the chief of which were engineering, shipbuilding, and building, and covered about 2,250,000 workers. The contributions first became payable in July, 1912, the employer paying 2½d. (5.1 cents) a week, the worker 2½d. a week and the national exchequer 1½d. (5.4 cents) a week in respect of each insured person. The benefit, at the rate of 7s. (\$1.70) a week, became payable in January, 1913, to persons who were genuinely unemployed, capable of work, and unable to obtain suitable employment, and who had contributed for 26 weeks prior to unemployment.

Employment Exchanges

The employment exchanges were an essential part of the scheme and by January, 1913, there were 414 exchanges with 927 branch offices throughout Great Britain. It is to the employment exchange that the worker applies for his unemployment pay and it is the exchange which ascertains whether suitable work can be found for him, or whether he is entitled to benefit.

The Scheme Before and During the War

The scheme, which was regarded as an experiment, did not have a thorough test before the war.

During the period January, 1913, to August, 1914, employment in the trades covered was good and there was no serious call upon the unemployment insurance fund.

Employment during the war was also exceptionally good and between July, 1912, and November, 1918, the fund had accumulated an undistributed balance of over £15,000,000 (\$72,997,500).

During the war, the employment exchanges served a very useful purpose in transferring labor from peace-time employment to war work. In 1916 the unemployment insurance scheme was extended to cover workers in the production of munitions and other materials for war, bringing another 1,500,000 into the scheme, which then covered 3,250,000 workers.

"Out-of-Work Donation" for Soldiers Discharged from the Forces

For a little over a year, immediately after the armistice, a temporary "out-of-work donation" was paid to men discharged from the forces and to civilian workers who were out of work in consequence of the change over from war to peace conditions. This had no connection with the unemployment insurance scheme, however, and was paid entirely from the exchequer. It continued in operation until November, 1919, for civilians, and until March, 1921, for ex-service men and women, and cost the exchequer the sum of £62,448,000 (\$303,903,192).² The "out-of-work donation" also carried a separate allowance for dependents, which was not a part of the regular unemployment insurance scheme at that time. Most of the benefits paid during the period when "out-of-work donations" were in operation, were distributed under that scheme and the unemployment insurance fund was little called upon.

Unemployment Insurance Extended to All Trades in 1920

In December, 1919, the rate of unemployment benefit paid by the unemployment insurance fund was increased from 7s. (\$1.70) a week to 11s. (\$2.68) a week, and in November, 1920, the unemployment insurance act of 1920 came into force, extending the unemployment insurance scheme to all workers under a contract of service or apprenticeship, with a few exceptions, the principal exceptions being agricultural workers and private domestic servants.

² Reply to question in House of Commons, Mar. 11, 1929.

Contributions under the act of 1920 were the same in principle as under the act of 1911, but were increased in amount to 4d. (8.1 cents) each from workers and employers and 2d. (4.1 cents) from the exchequer. About 11,375,000 workers were covered in Great Britain and Ireland, and after the taking over by the Government of Northern Ireland and the Irish Free State of the administration in Ireland, the number covered in Great Britain was 11,250,000. This has now increased to nearly 12,500,000.

The benefit, which was 15s. (\$3.65) a week for men and 12s. (\$2.92) a week for women, payable in any individual case, was limited to one week's benefit for every six contributions paid and subject to a maximum of 15 weeks' benefit in any insurance year. Benefit was payable only after 26 contributions had been paid. This was later increased to 30.

Increase in Numbers of Unemployed in 1921

At the time of the passing of the act, insured workers who were unemployed numbered about 500,000; the trade depression soon followed and in May and June, 1921, the numbers had increased to 2,000,000 wholly unemployed and another million working short-time and claiming benefit. The numbers were swollen at that time by the coal strike and diminished somewhat after the termination of the dispute, but the total has been almost constantly over a million since that date.

"Uncovenanted Benefit" or "The Dole"

Owing to the trade depression, it was considered impracticable for the large numbers of workers newly covered into this scheme to build up any reserve of contributions against which they could draw benefits. A new act was accordingly passed in March, 1921, introducing an entirely new principle into the unemployment scheme. This principle has been called "uncovenanted benefit" or "extended benefit" and is now referred to as "transitional benefit." It provided that a person who was normally employed in an insurable employment might receive unemployment benefit notwithstanding insufficient or even an entire absence of contributions to his credit, provided that he was genuinely seeking work and unable to obtain it. This provision, with some modifications, has been extended up to the present but it has always been regarded as temporary and only included as a part of the scheme because of the necessities arising out of the abnormal situation. The benefit was originally granted for a limited number of weeks during a period defined by law. This period has been extended by a series of acts passed periodically up to the present time.

"Uncovenanted Benefit" Paid at Discretion of Minister of Labor or as a Right

The act of 1921 made the grant of "uncovenanted benefit" dependent upon a decision of the Minister of Labor that, having regard to all the circumstances of the case, it was "expedient in the public interest" that it should be paid. This provision continued in all the acts down to that of August, 1924, when it was abolished, and the benefit in excess of that due in respect of contributions was made payable as a right. This act of 1924, establishing the "right" to

"uncovenanted benefit" was passed by a labor government which was in power at that time. It was reversed in 1925 by the conservative government which had returned to power and again the "uncovenanted" or "extended" benefit became payable at the Minister of Labor's discretion. In 1927, however, another act was passed, effective April 1, 1928, which did away with the distinction between "standard" and "extended" benefit, and abolished the discretionary power of the Minister of Labor to place restrictions upon the grant of benefit.

The "uncovenanted benefit" is now usually known as the "transitional" benefit. The act of 1927 provided that to be entitled to unemployment benefit the claimant must have paid 8 or more contributions during the two years immediately preceding his claim, or 30 contributions at some time, but allowed for a relaxation of these conditions during a transitional period. The duration of the transitional period was set for one year from April 19, 1928, but has since been extended by successive enactments.

Rates of Benefit

Rates of benefit increased from 7s. (\$1.70) a week in 1911 to 11s. (\$2.68) a week in 1919, to 15s. (\$3.65) a week in 1920, and to 18s. (\$4.38) a week in 1924, and were reduced to 17s. (\$4.14) in 1927-28. These refer to the rates for adult male workers. Slightly lower rates for female workers, and lower rates for young persons have also prevailed.

The unemployed workers' dependents (temporary provision) act of 1921, granted for a special period of six months, additional allowances for the wife and dependent children of an insured unemployed worker receiving benefit. These additional allowances later became a permanent part of the unemployment insurance scheme and were paid for a time at the rate of 5s. (\$1.22) a week for the wife and 2s. (49 cents) for each dependent child of school age, being later increased to the present scale of 9s. (\$2.19) a week for adult dependents and 2s. a week for a child.

Present Rates of Benefit

Benefits now paid to young men and women and to boys and girls between 16 and 18 are shown in United States currency below:

| | Weekly rate |
|---------------------------------------|-------------|
| Men aged 21 and under 65..... | \$4. 14 |
| Young men aged 18 and under 21..... | 3. 41 |
| Boys aged 17 and under 18..... | 2. 19 |
| Boys under 17..... | 1. 46 |
| Women aged 21 and under 65..... | 3. 65 |
| Young women aged 18 and under 21..... | 2. 92 |
| Girls aged 17 and under 18..... | 1. 82 |
| Girls under 17..... | 1. 22 |
| Dependents' benefit: | |
| Adult dependent..... | 2. 19 |
| Dependent child..... | . 49 |

Contributions to the Unemployment Insurance Fund

The principle of the unemployment insurance scheme is that benefit shall be paid from a fund consisting of contributions paid by employers, workers, and the State. The contributions of the employer and worker are paid by means of stamps, purchasable from the local post office, which the employer affixes to the unemployment insurance book of each worker weekly before paying his wages, deducting the employee's share of the cost from his wages. The books are issued to insured workers by local employment exchanges and have a currency of one year, after which they must be renewed.

Several increases in the rates of contributions to the unemployment insurance fund have been made since the act of 1911 when the worker and employer each paid 2½d. (5.1 cents) a week and the exchequer 1¾d. (3.6 cents) a week for each worker. These contributions were increased in 1920 to 4d. (8.1 cents) each from the worker and the employer and 2d. (4.1 cents) from the exchequer, and again, later, to 10d. (20.3 cents) from the employer, 9d. (18.3 cents) from the worker and 6¾d. (13.7 cents) from the exchequer. The rates prevailing to-day are roughly 8d. (16.2 cents) from the employer, 7d. (14.2 cents) from the worker, and 7½d. (15.2 cents) from the State. Converted into United States currency, they now stand as shown in the table which follows:

PRESENT WEEKLY RATES OF CONTRIBUTION TO UNEMPLOYMENT INSURANCE FUND

| Class of employed persons | Weekly contribution by— | | | Total contribution |
|----------------------------|-------------------------|-------------------------|----------------|--------------------|
| | Em- ployer | Em- ployed person | Ex- chequer | |
| | <i>Cents</i> | <i>Cents</i> | <i>Cents</i> | <i>Cents</i> |
| Males: | | | | |
| 21 and under 65 years..... | 16 | 14 | 15 | 45 |
| 18 and under 21 years..... | 14 | 12 | 13 | 39 |
| Under 18 years..... | 8 | 7 | 8 | 23 |
| Females: | | | | |
| 21 and under 65 years..... | 14 | 12 | 13 | 39 |
| 18 and under 21 years..... | 12 | 10 | 11 | 33 |
| Under 18 years..... | 7 | 6 | 7 | 20 |

The proportion of the contribution for each person paid by the exchequer was increased to its present ratio, one-third of the total, by an act passed in 1929. In addition, the exchequer now bears the whole cost of the "transitional" or "uncovenanted" benefit. Up to 1930 all benefits were paid from the general insurance fund, but a bill passed in that year extending the transitional period to April 19, 1931, imposed upon the exchequer the payment of transitional benefit, and retroactively made it responsible for this benefit from April, 1929, the date which was first set for the end of the transitional period. The exchequer also assumed a small part of this cost for the original 12 months of the transitional period.

Debt of the Unemployment Fund

In spite of the increased contributions to meet the extended scheme, borrowings from the treasury became necessary as early as 1921, when

the unemployment figures began to rise rapidly as a result of the slump in trade. The unemployment fund which had accumulated up to that time became exhausted and borrowings from the treasury commenced. In 1923, the debt to the treasury stood at £17,000,000 (\$82,730,500) but was reduced by September, 1924, when trade was considerably better, to £4,670,000 (\$22,726,555). Not long after this, however, it began to increase again. In 1926 it increased to over £22,500,000 (\$109,496,250) and to-day stands at more than £53,000,000 (\$253,924,500), while it is now steadily increasing.

At the present time, much concern is felt, not only for the large volume of unemployment with its consequent social and economic effects, but also for the financial condition of the unemployment fund. The present acute trade depression, which may be said to date from the Hatry disclosures and the Wall Street crash, has brought the volume of unemployment to the highest level ever reached, with the exception of the two short periods of the coal disputes of 1921 and 1926. It has been necessary several times during the past four years to pass special legislation in Parliament providing for the power of borrowing larger and larger sums from the treasury and at the end of October, the debt had reached £53,220,000 (\$254,995,130). A bill is now before Parliament for yet another increase, to £70,000,000 (\$340,655,000) in borrowing powers.

This debt is considered temporary and the legislation provides for its gradual paying off when prosperity returns, but the temporary period has extended now to a decade and the necessity for bringing the "insurance" scheme on to an "insurance basis," is now looked upon as pressing. A royal commission has recently been appointed to investigate the system of unemployment insurance with special reference to the financial question.

Cost of Unemployment Insurance Since November, 1920

The unemployment insurance scheme has cost between November 8, 1920, and October 25, 1930, approximately £510,000,000 (\$2,481,915,000), including benefits of £452,000,000 (\$2,199,658,000) and costs of administration, etc., of about £58,000,000 (\$282,257,000). This £510,000,000 has been met by contributions to the amount of about £437,000,000 (\$2,126,660,500) collected during the period—£310,000,000 (\$1,508,615,000) from workers and employers and £128,000,000 (\$622,912,000) from the national exchequer. Nearly £20,000,000 (\$97,330,000) available in the fund at the beginning of the period has also been used, and the balance of £53,000,000 (\$257,924,500) represents borrowings from the treasury, theoretically to be repaid from the fund when prosperity returns with decreasing expenses and increasing receipts. In other words, about 86 per cent of the cost has been met by the regular provisions of the fund, namely contributions from worker, employer, and the State, collected during the period; about 4 per cent from the fund accumulated between 1912 and 1920; and about 10 per cent from money borrowed from the British treasury.

If the total direct cost to the British taxpayer of unemployment relief paid to persons out of work since the war, be estimated, it would be roughly as follows:

| | |
|--|------------------|
| Exchequer contributions to unemployment fund.. | \$632, 645, 000 |
| Sums loaned to unemployment fund..... | 257, 924, 500 |
| Cost of out-of-work donation ³ | 301, 723, 000 |
| Poor law relief in money and kind to unemployed persons ³ | 399, 053, 000 |
| Total..... | 1, 591, 345, 500 |

If unemployment had not been abnormal during the 10 years 1920-1930, the rate of contributions to the unemployment insurance fund from the exchequer would doubtless have been considerably less, but would probably have exceeded £100,000,000 (\$486,650,000). If the 2,000,000 unemployed persons were now to be absorbed into industry leaving only the temporary, or seasonal unemployment originally intended to be covered by the scheme, the contributions from the exchequer would probably run to about £12,000,000 (\$58,398,000) per annum as compared with an average annual expenditure in payments of all kinds to unemployed persons provided by the State of close onto £33,000,000 (\$160,594,500) since the war. It would follow, therefore, that an annual average cost to the Government of £12,000,000 (\$58,398,000) may be regarded as the permanent share of the State in the provision for unemployment insurance in more or less normal times, while the annual average of another £21,000,000 (\$102,196,500) actually spent in addition to the £12,000,000 (\$58,398,000) during the past decade may be looked upon as the cost to the British taxpayer of the emergency which has existed since November, 1918. (This includes £53,000,000 (\$257,924,500) debt accumulated during the 10 years and theoretically to be repaid to the treasury eventually, as well as poor law relief and the out-of-work donations.)

Opinions as to Social and Economic Effects of Unemployment Insurance Scheme

There are widely differing opinions in Great Britain as to whether the unemployment insurance scheme as it has been applied to the postwar problem has done more harm than good. The opinion of the Balfour committee (the Royal Commission on Industry and Trade which sat for many months and issued its findings in five volumes, the final summary being published in March, 1929) is of particular interest. The committee's discussion of the situation does not cover the present acute crisis, for it was published in early 1929, before the trade slump, and while the Conservative Government was still in power and the stricter legislation with regard to the payment of benefits was in force. The committee refers to the measures of the act of 1927 passed in accordance with the recommendations of the Blanesburgh committee, in general approving of the steps taken to insure that the incentive to seek work and to keep employment should not be diminished by the operation of the scheme.

³ Not included in cost of unemployment insurance scheme as set out in the preceding paragraph.

On the effect of the scheme on the mobility of labor, the committee gives its opinion as follows:—

That the provision of unemployment benefit should to some extent lessen the incentive to migration and to industrial redistribution is perhaps inevitable. It is, however, possible by wise regulations and procedure to reduce this danger to a minimum, and in view of the outstanding importance of preserving and increasing mobility in the widest sense of the term we are of opinion that no efforts for this purpose should be spared. One of the governing considerations that should always be present to the minds of those who frame and administer the provisions of such a scheme is the necessity of avoiding any tendency to stereotype the existing distribution, whether geographical or industrial, of the working population, or to check the natural flow from industries and districts in which demand is diminished toward those in which it is more active.

The work of the transference board should be noted in this connection (see p. 68).

Regarding the effect on the will to work, the committee states that it has carefully examined the contention often lightly asserted that the removal of much of the terror of unemployment has relaxed the will to work. In the light of the results of four sample inquiries made by the ministry of labor into the personal circumstances of individuals insured against unemployment, and also in the light of such information as was in its possession with regard to industrial unemployment in the United States, the committee concludes that—

The proportion of the unemployed who might be considered as "verging on the unemployable" was extremely small, being only about 2 per cent of the total, and including a majority of elderly persons, and that the nucleus of individuals who had remained on benefit for long periods was only 6 per cent of the whole number. * * *

It can not be said that the figures of industrial unemployment in the United States give any support for the view that the mass of unemployment in this country is to any material degree the result of the measures taken for mitigating the resulting hardships and could be appreciably reduced by discontinuing these measures.

Regarding the general beneficial effect of the scheme up to that time, the committee stated that—

The employers' contributions to the unemployment fund represent a negligible addition (averaging much less than 1 per cent) of the total costs of production, and we are satisfied that on the whole the resulting advantage to them has very greatly exceeded any burden of this kind;

and further, that—

Having regard to the terrible possibilities of suffering and even of social upheaval from which these operations probably saved the country, we feel little disposed for meticulous criticism, but rather desire to accord our unstinted praise for the fine work accomplished by the staff of the Ministry of Labor under such difficult conditions. * * *

There has been practically no decline in the consumption of the essential necessities of life in spite of the fact that a million or more workers have been earning no wages at their trades. For this happy result, a large part of the responsibility undoubtedly rests with the unemployment insurance scheme.

Provision of Work on Public Construction Schemes for Relief of Unemployment

THE unemployment situation has been in the forefront of political discussion in this country since 1921, and has been almost daily referred to in Parliament and in the press. All are agreed that the final solution of the present acute unemployment situation is the revival of the great basic industries and of trade in general. The prolonged

period of maladjustment and depression in the greater industries of the country has naturally called for special steps and widely varying opinions as to the best way of meeting the emergency exist. It has naturally been suggested by many that the funds paid to unemployed persons might better be employed in providing work for them which would, in itself, be of value.

The various governments which have been in power during the decade have undertaken to provide a certain amount of employment by encouraging local governments to hasten their construction programs in the development of roads, bridges, land drainage, etc. The extent to which such schemes can relieve the situation, however, is believed by some to be greater than others have considered practicable. A pamphlet entitled "We Can Conquer Unemployment," aroused much interest when it appeared in May, 1929. The various suggestions contained in it were discussed in detail in an official publication entitled "Memoranda on Certain Proposals Relating to Unemployment," in which it is pointed out that probably no more than 400,000 of the then total of 1,144,000 unemployed persons receiving benefit could be given work in the schemes suggested.

At the close of 1920 the Government created an unemployment grants committee through which it proposed to promote public works for the purpose of providing employment by granting financial assistance to local government bodies for schemes of development which, without the assistance of the grants, would not have been undertaken until a somewhat later date.

The Government has actually spent somewhere around £16,000,000 (\$77,864,000) along these lines, chiefly by assisting local governments in the raising of loans and by paying a proportion of the wages paid in some of the construction work. It is estimated that up to June, 1929, somewhat less than 4,500,000 man-months of employment were provided by these grants.

The opinion of the Balfour committee on the efficacy of meeting the unemployment situation by the provision of work is of particular interest.

We do not doubt that the exercise of care and foresight on the part of public authorities in arranging beforehand, and if possible over a fairly long period, their program of necessary public work may sometimes enable them to postpone until a time of depression work which in the ordinary course might have been undertaken in a period of active trade. Alternatively (though within much narrower limits) they may in times of depression be able to accelerate work which would eventually be necessary, but which otherwise would have been deferred. Subject to the qualifications mentioned below, some contribution may be made by such methods toward diminishing the violence of trade oscillations; and where such possibilities exist and the inconvenience and extra cost of retardation or acceleration are not excessive, the arguments are all in favor of such a policy. Nevertheless, it would be wrong to expect too great results from action of this kind. A large part of the public work which is susceptible of postponement or acceleration is work of special kinds which could not provide employment in their own trades for any considerable number of unemployed persons. Moreover, the experience of the postwar depression, when considerable inducement was held out by the Government year after year to local authorities and others to expedite necessary work in order to provide immediate employment, shows that in a long-continued depression the possibilities of bona fide anticipation become rapidly exhausted. In these circumstances employment so provided may tend to lose its economic character and to become hardly distinguishable from ordinary relief work.

Work of the Transference Board

IN 1927 the existence of over 300,000 unemployed coal miners (of whom nearly 200,000 had small hopes of ever finding permanent employment again in the coal-mining industry) made it clear that steps would have to be taken to assist this labor to be absorbed into other trades. In January, 1928, the industrial transference board was appointed "for the purpose of facilitating the transfer of workers, and in particular of miners, for whom opportunities of employment in their own district or occupation are no longer available."

Emigration to the oversea Dominions, transfer to less depressed areas in the south and midland sections of England, and the wider use of existing training centers were all means used by the board. During the first year about 10,000 persons were transferred within the country alone, while a considerable number were assisted to emigrate after special training in centers run by the Ministry of Labor. The committee has funds for providing traveling expenses in cases where employment can be found for individuals in districts at some distance from their own, and has in this way done much to redistribute surplus labor in the coal mining industry.

It is of interest to note in this connection that in a recent statement, the Minister of Labor announced that unemployed mill girls in the cotton manufacturing districts will be expected to take positions in domestic service when they can not obtain employment in their own trades, or to forfeit their right to benefit after a given period of unemployment.

Industrial Employment Methods During Depression

THE following is the full text of an outline of Industrial Policies and Practices in Time of Reduced Operation and Employment prepared for the President's Emergency Committee for Employment in January, 1931. In presenting the outline it is stated that the material is suggestive only. Reports coming from progressive companies throughout the country form the basis of the outline, and the President's Emergency Committee for Employment presents the material in concise form in order that large and small companies may be aided in determining policies best fitted to meet their particular needs.

It is further stated that basic policies underlying the procedure of progressive companies provide for: (1) Determination and definite statement of policies to be followed; (2) consultation with workers affected; (3) maintenance of accurate and complete records; and (4) interchange of information on procedure among companies.

Outline of Industrial Policies and Practices in Time of Reduced Operation and Employment¹

I. Methods of Spreading Employment

IN AN attempt to spread employment and earnings as far as possible, most companies faced by a reduction in operations have

¹ The methods here briefly presented were revealed by correspondence to be in practical operation. They are presented for their suggestive value only. It is recognized that each individual management must judge the applicability of any suggestion to its particular situation. There has also been prepared for the President's Committee a Survey of Unemployment Relief in Industry, which may be obtained by addressing the committee, Department of Commerce Building, Washington, D. C.

shortened the working time of individual employees in the departments or plants affected. This is frankly an emergency procedure and has met with widespread acceptance by employees where they have been advised of the necessity of such a step. The advantage of providing many or all employees with some earnings rather than a smaller proportion of employees with full earnings needs no explanation. In most cases the hourly rates of the employees have been maintained and overtime work has been eliminated. The lower limit of work afforded each employee kept on the pay roll is usually half-time. Operating problems affect the particular combination of hourly and daily schedules used. To the extent necessary, some companies have suspended deductions from pay for savings, home purchase, stock, or similar plans to afford employees on part time the immediate use of all pay earned.

A. *Reduced weekly schedule.*—Use of a 5, 4, or 3 day week.

B. *Reduced daily schedule.*—Use of 8, 7, or 6 hour day.

C. *Shorter shifts in continuous operation.*—Use of four shifts, six hours each, or similar change.

D. *Alternating shifts, gangs, or individuals on same job ("staggering").*—Use of two or more groups or individuals at same job, alternating their employment; 3 days on, 3 days off; 1 week on, 1 week off.

E. *Rotation of days off.*—Operations requiring group coordination have been continued in some companies, in the face of a necessity to reduce pay roll, by the rotation of days off by the employees in the group, thus giving some work to all those in the group. The advantage of days off over against reduced daily hours is that employees may be able to use free days to work at home or to do odd jobs to supplement earnings. Notice of days off is usually given as long in advance as possible to permit securing of such jobs.

II. Methods of Increasing Work Available

While methods of increasing work are often technical and are to be tested by economic and financial determinations, there has been widespread use of such plans to broaden the employing power to the companies.

A. *More extensive maintenance and repair.*—Cleaning, repairing, testing, painting, etc., of machinery, structures, properties, etc.

B. *Accelerated replacement.*—Hastened replacement of worn, obsolete, or inadequate machinery, parts, or facilities; rearrangement of machinery; modernization of power, processing, or handling equipment. The economic test of proper productive capacity, and the probable immediate effect on the operating personnel employed have been matters for serious consideration in developing such plans.

C. *Construction.*—Construction of new plant, buildings, industrial track and roadway, housing, power facilities, etc., is being carried on by many companies even though seasonal conditions may not be entirely advantageous. Increased employment and decreasing costs are considered important reasons for immediate action.

D. *Production for stock.*—With proper safeguards some companies find this feasible. Measures permitting increased operations are the obtaining of orders for future delivery, improvement of warehousing facilities, and forecasting future orders through more extensive field surveys. Where possible, some companies assure those supplying them with material as to their future needs.

E. *Development of new products and new customers.*—Attempts are being made to reach new levels of consumption through new types and improved quality of products, decreased price, extensive advertising, and more scientific salesmanship. It is the belief of some that qualitative improvement in company products is an important means of creating new demand and thereby offsetting unemployment.

III. Analysis of Pay Roll and Survey of Personnel as a Basis for Lay-Off Procedure

As soon as lay-offs are in prospect, companies have proceeded to analyze their pay rolls and to make personnel surveys. Hit-or-miss lay-offs, poor policy in normal times, are entirely unwarranted in times of serious unemployment and impaired employee earnings. In many companies, intensive analysis of card records previously available, personal interviews at the employment department or by foremen or supervisors in the plant departments, or consultations with representatives of the workers affected have been made the basis for ensuing steps in reducing personnel. Where the proportion of the reduction necessary was not at first apparent, some companies have taken tentative action, later reconsidered in the light of pay-roll analysis and personnel surveys. The best procedure, it has been found can only be established on the basis of definite, complete, and up-to-date knowledge of the economic status of the personnel concerned. The following purposes are served by such action:

A. Disclosure of persons willing to go on furlough without pay.—Older persons approaching retirement, married women with husbands working, employees wishing furloughs for vacation purposes may accept lay-off voluntarily if certain privileges as to future employment, service record, or coverage under company plans are assured.

B. Disclosure of duplication of wage earners in same family unit in the company's employ.—While action thereon is complicated by many circumstances, the knowledge of the total income accruing to a family unit from company employment is of value in time of serious unemployment.

C. Determination of need for earnings as indicated by number of dependents and home responsibilities.—Information concerning married women with husbands employed over against single or widowed women with home dependents, family heads with aged or young persons dependent upon them, illness, or other emergencies, has been found useful.

D. Determination of adequacy of part-time earnings.—Part-time employment is found to affect the budgets of some employees far more seriously than those of others. Financial advice, or reconsideration of employment schedule, may be necessary in certain cases.

E. Determination of practicality of predating transfer to pension roll.—Some older employees have savings accumulations which might permit them to accept reduced pensions immediately.

F. Indication of persons to whom assurances can be safely given as to the security of their employment.—The removal of anxiety where this is possible is found to release purchasing power, encourage charitable contributions by those employed, and stimulate community and plant morale.

G. Maintenance of list for preferential employment.—As an outcome of the analysis and surveys above, a priority list can be maintained similar to those used by draft boards in the World War. Seniority in service, skill, training, and experience are all factors to be considered.

IV. Methods of Assistance to Persons Laid Off

Few progressive companies have dropped all concern for former employees on termination of employment. The present emergency has greatly stimulated the application of methods of assisting laid-off employees.

A. Placements in other jobs whether temporarily or permanently laid off.—Employment department machinery, outside exchanges, outside visits by employment officers, interplant committees, community interchange arrangements, advertisements and circular letters, and other means have been used to secure employment for laid-off employees. Longer notice of lay-off affords greater opportunity to locate a new job.

B. Loans and credits.—Cash loans, lump sum or periodic, are extended in certain companies, following friendly investigation of need. On reemployment

loans are to be repaid with or without interest by deductions from wages. Tactful and intelligent action assures protection against distress in those cases where pride and sensitiveness otherwise cover up need. Credits are given on rent, fuel, food, and clothing where company housing, services, or stores are available. Such loans or credits are usually extended to employees temporarily laid off where the persons assisted are both willing and able to assume financial obligation.

C. Dismissal compensation in case of permanent lay-off.—There has been an increasing use of permanent lay-off compensation where technological change coupled with decreased employment have rendered necessary permanent separation of longer-service employees. In a time of depression such bonuses are found to be all the more essential to cushion the shock to the employee in the readjustment of standards and expectancies. Such compensation ranges between companies from two weeks' to one year's wages, usually varying according to the age and service of the employee.

D. Follow-up surveys through personal visits, card records, and community interchange of information.—Companies attempting to assume responsibility for laid-off employees, to the extent possible to prevent their becoming dependent on community relief, have found personnel surveys by trained representatives and the preparation of continuing records valuable in preventing or alleviating distress. Cooperation with community relief agencies is often essential to prevent oversight or duplication of assistance.

E. Cooperation with community relief agencies.—To a marked extent company and company relief organizations, where such exist, are cooperating with established community relief agencies. Unless such cooperation is developed, serious oversight may develop on the one hand and duplication of efforts on the other. Where any form of charitable relief is planned, communication with established agencies has been found to be essential. Company gifts or employee contributions by pay-roll deductions are usually put to most effective use by experienced relief officers. Provision of free transportation, medical, fuel, housing, employment, and administrative services are among the steps taken by many companies.

V. Permanent Policies for Stabilization of Earnings and Employment

A. Forecasting and planning.—There are indications of greater use of outside statistical experts and services and the employment of staff statisticians in coordination with planning and production scheduling departments as a means of avoiding excessive operations and inventories at a time of imminent decline in business.

B. Broader training of new employees, apprentices, and special groups within personnel.—Broader training of personnel has been found to afford greater flexibility in shifting employees between departments in time of changing demand or changing methods of production. Developments of more extensive and efficient training departments include the "preemployment school," apprenticeship courses, and "the flying squadron."

C. Standardization of products.—Greater accuracy and range of forecasting has been found to be possible where products are standardized. Price concessions are sometimes made to customers specifying standard products in orders filled from stock. Experience indicates that standardization of products reduces idle machinery and allows greater flexibility in the use of personnel.

D. Guaranteed employment.—Security of employment has been found to afford marked improvement in employee morale and efficiency if properly supplemented by wage, promotion, and other financial and nonfinancial incentives. Such guarantees are considered a desirable goal in industrial relations practice, more or less attainable according to the company's product or service and financial situation.

E. The elastic workday or week.—Some companies have been operating for a considerable period on the plan that daily or weekly hours, rather than the number of employees hired, should be adjusted to the amount of work available. Certain railroad companies have developed this plan in employment procedure in their maintenance departments. As a permanent plan, it causes some fluctuation in employee earnings but this is considered preferable by the group affected as against sharp variations from full earnings to no earnings in the case of those laid off.

F. Unemployment insurance.—As a final protection to the standard of living of the industrial employee, private unemployment insurance has received an impetus during the last year. Insurance plans with adequate funds previously accumulated are not numerous, but, the accomplishments of the plans in operation at this

time are encouraging emulation. Unemployment insurance or pension plans are usually voluntary and contributory, although in one important scheme all employees may be assessed by pay-roll deductions in times of emergency. Loan plans for laid-off employees are in some cases associated with those for unemployment benefits, either through the use of the same accumulated fund or the possibility that loans now made will be later merged into a program for the assurance of some income to persons laid off in the future.

Survey of Unemployment Relief in Industry

TO LEARN the extent to which individual industries are attempting to meet the emergency occasioned by unemployment and the methods they are using to that end, the President's Emergency Committee for Employment has made a survey of a diversified list of large and small corporations manufacturing in over 500 locations and employing more than 750,000 men in 1929.¹ Table 1 is reproduced from this study and shows the extent to which relief plans were used in companies of varying size.

TABLE 1.—USE OF RELIEF PLANS BY COMPANIES OF VARYING SIZE

| Item | Number employed at 1929 peak | | |
|---|------------------------------|----------------|--------------|
| | Under 1,000 | 1,000 to 5,000 | Over 5,000 |
| | Per cent 100 | Per cent 100 | Per cent 100 |
| Total companies in each group..... | | | |
| Companies having an unemployment problem ¹ | 75 | 86 | 96 |
| Companies spreading work..... | 53 | 72 | 88 |
| Companies creating new work by repair or construction programs..... | ² 37 | 25 | 56 |
| Companies giving direct relief..... | 16 | 31 | 40 |

¹ Includes those maintaining forces intact only by the adoption of relief measures.

² Concentrated in companies employing less than 500. Small companies are able to keep working forces intact by this means.

From Table 1 it is apparent that the larger the number of employees in 1929, the greater the percentage of companies having an unemployment problem, the percentage rising from 75 for companies having under 1,000 employees at the peak in 1929 to 86 for those companies having 1,000 to 5,000 and to 96 per cent for the companies having over 5,000 employees.

The report goes on to state that the survey indicated great variation among companies and operation varied from full, normal time to 50 per cent of full time and in some few instances to as little as 25 per cent of full-time operation.

It was found that many companies without formal plans for relief were developing machinery for relief and that a deepening sense of responsibility with regard to the unemployment problem was in evidence. Table 2 shows the extent of relief in relation to degree of unemployment.

¹ "A Survey of Unemployment Relief in Industry," prepared for the President's Emergency Committee for Employment.

TABLE 2.—EXTENT OF RELIEF IN RELATION TO DEGREE OF UNEMPLOYMENT

| Item | Decline from 1929 peak | | | |
|---|------------------------|------------------------|------------------------|--------------------------|
| | No change | 0-10 per cent decline | 10-30 per cent decline | Over 30 per cent decline |
| | <i>Per cent</i> 100 | <i>Per cent</i> 100 | <i>Per cent</i> 100 | <i>Per cent</i> 100 |
| Total companies in each group..... | | | | |
| Companies with formal relief plans..... | 1 6 | 13 | 37 | 42 |
| Companies spreading work..... | 1 43 | 65 | 85 | 95 |
| Companies creating work through repair and construction programs..... | 1 43 | 26 | 47 | 57 |
| Companies giving direct relief..... | | 30 | 47 | 47 |

¹ These percentages reflect the effort being made by means of relief measures to maintain employment unchanged in spite of decreased business.

In commenting on the extent of relief in relation to degree of unemployment the writer of the report draws attention to the fact that a large proportion of the companies which reported little or no change in the number at work were able to maintain this condition only through extensive application of emergency methods. Some companies felt that the burden of assistance needed by employees was beyond their capacity to meet but after investigation met the situation by dividing work or rendering other direct aid. The figures in Table 2 show the importance of spreading work as a relief measure, since 95 per cent of the companies with 30 per cent or more of unemployment resorted to this method of relief. The methods of spreading work and the relative use of this and other unemployment plans are as follows:

| | <i>Per cent</i> ¹ |
|---|------------------------------|
| Total companies having an unemployment problem..... | 100 |
| Companies spreading work..... | 82 |
| By fewer days per week ² | 53 |
| By shorter hours..... | 43 |
| By rotation of jobs..... | 43 |
| Companies creating new work..... | 44 |
| By repair and maintenance programs ² | 32 |
| By new construction..... | 12 |
| By manufacture for stock..... | ³ 21 |
| Companies with unemployment insurance..... | ⁴ 7 |
| Companies giving direct relief..... | 37 |
| Donations— | |
| Cash ² | 20 |
| Food..... | 17 |
| Clothing..... | 16 |
| Fuel..... | 14 |
| Medical aid..... | 14 |
| Rent..... | 13 |
| Loans..... | 14 |

¹ The companies upon which statistics are based were not weighted according to number of employees.

² Note that subclassifications are not exclusive. Some companies use two or more.

³ Probably in large part a normal procedure.

⁴ Per cent of all companies interviewed.

Community Planning in Unemployment Emergencies

THE Russell Sage Foundation has recently published a pamphlet dealing with the subject of community planning in unemployment emergencies¹ which, the author states is an endeavor to bring together recommendations for community action to meet emergency unemployment. The recommendations offered take into consideration the experience of social agencies and their representatives, as recorded in books and addresses on the subject, and the reader is strongly urged to read in their entirety as many as possible of the source books listed in the bibliography. In addition to the main body of the report and a bibliography, two appendixes appear in the publication. The first presents conclusions drawn from "The Burden of Unemployment," by Philip Klein, and the second, conclusions and recommendations from "How to Meet Hard Times," a report of the Mayor's Committee on Unemployment, New York, 1917.

The study opens with a statement that it is disheartening to realize how little of the experience of one crisis we seem to retain to help us attack the next. The need is urged for well-planned programs for unemployment relief through organized community agencies, both public and private. Such programs may be expanded in time of abnormal need to give individualized service and thus do away with the worst features of indiscriminate relief—bread lines, soup kitchens, enormous lodging houses—which involve wasteful application of funds, but more especially divert the main stream of those in need away from a more penetrating and individualized care to the place where immediate wants can be satisfied.

First Line of Defense

THE study under review does not attempt to deal with causes and cures of cyclical unemployment. It does, however, lay down certain principles which may be helpful to local groups in the face of nationwide and world-wide depression. In the early pages of the study the writer points out that whatever emergency measures are adopted in times of industrial depression, the major part of the burden will fall on the unemployed themselves. Ten avenues are listed as open to persons in a community for meeting their needs when unemployed. These avenues are emigration, migration, change of occupation, part-time work, use of savings, use of credit, neighborly help, individual help, help of churches and social organizations, and help of relief societies. Without the well-planned direction that a community unemployment committee or other organized group can give to the individual seeking to work out his own problem, the number of persons who will suffer great permanent losses will be unduly high. A man without work may have to borrow money at excessive interest, allow his bills to run, allow insurance to lapse, lose his home and furniture or lose in a variety of different ways and to an unnecessarily large extent unless the community is mobilized to secure for its unemployed the right kind of publicity and to strengthen credit. It is therefore advocated that publicity be avoided which will add to alarm, cause credit to be restricted, lead the unemployed to conceal savings

¹ Russell Sage Foundation. Community planning in unemployment emergencies, by Joanna C. Colcord. New York, 1930.

and resort to relief centers, induce relatives and friends to withhold assistance while urging upon the unemployed that they get their share of relief benefits, and attract to the community nonresidents who hope to secure work or easy assistance. At the same time it is suggested that credit may be strengthened in a community by the underwriting of credit by the local body dealing with problems arising out of unemployment. In this way credit relations between consumer, retailer, jobber, wholesaler, and producer may be prevented from tightening and the unemployed individual aided in financing himself in periods of stress.

Advocacy of Decentralized Relief

ALL the reports quoted discourage and point to the ill effects of centralized relief schemes. Opposition to centralized relief is based upon experience of social agencies in dealing with former emergencies. Experience is said to have demonstrated that unemployment relief, to be handled even relatively well, must be decentralized. No agency, public or private, can give the impression that a situation can be dealt with centrally without doing great harm and it is believed that each group of citizens and each citizen should have a part in any community program dealing with unemployment. But a distinction should be made between planning and the actual work of relief, for centralized planning is considered essential to systematic breaking up of the problem into parts. For this reason it is necessary to build up a representative group to make unified plans in an unemployment emergency.

Coordination of Relief Activities

UNDER ideal conditions an unemployment committee would be in existence long enough before an unemployment crisis arises to allow study of local conditions and to work out definite plans. The most effective work is reported as being done where the present emergency is being met as part of a unified, long-time social program and it is urged that optimism and unwillingness to admit that times are growing bad should not prevent timely planning.

A committee may be formed either under Government leadership or by committees consisting of public-spirited, capable men. It should not be so large that the members can not come to know each other. In selecting the membership of a committee the personnel of the following groups is recommended for consideration:

Public employment office; chamber of commerce; two or three leading industries; personnel managers' association; central labor union; commercial bank; savings bank; city government (the mayor should be an ex officio member); organizations dealing with homeless men; council of social agencies; family society; visiting nursing association; board of health; organizations dealing with ex-service men; Y. M. C. A. and Y. W. C. A.; Y. M. H. A. and Y. W. H. A.; K. of C.; bureau of vocational rehabilitation; board of education; representative of church federation or similar group.

The aims of such a committee are summarized briefly as follows:

1. To gather the facts as to present local conditions in industry.
2. To coordinate the plans and resources of local agencies.
3. To see that all available real work for real wages is distributed to the best advantage.
4. To develop resources for the relief of such of the unemployed as can not plan for themselves. These will generally take the form of relief in wages for "made" work, direct relief, and charitable loans.
5. To furnish wise and discourage unwise publicity.

Under the first heading, "Gathering facts," it is advocated that a special committee be chosen, consisting of about a dozen persons who have the necessary interest, training, and time. Inquiry might cover "business conditions, savings accounts, business failures, stock turnover in merchandizing concerns, employment in factories, trade and transportation, building operations, employment service, production indexes of industrial plants, nation-wide business matters, local housing, relief and service, changes in population, and so on."

Attempts to measure volume of unemployment, as distinct from applications for employment, are said to have proved useless if not harmful and it is therefore not recommended that communities try to secure censuses of unemployment.

Coordination of efforts implies a full use of existing agencies for relief, including the small as well as the large agencies, but it must always be kept in mind that the social agencies have work to do that is tied up with causes outside unemployment and which must not be slighted in the face of needs arising out of the unemployment emergency. It rests with the committee to exercise directive power, thereby guiding the needy to the agencies best fitted to take care of their special needs. Cooperation must be so developed that the efforts of one agency will not overlap those of another. If the agencies of a community have already developed a working agreement as to the functions of each, the work of relief will be facilitated, but even though no such agreement has been developed a committee will do well to classify and integrate the services of the community through existing agencies and not create any new agency.

It is recommended that distribution of real work be facilitated by encouraging existing employment agencies to work closely together, possibly establishing a clearance system of jobs so that workers may be spared from going from bureau to bureau. Where no such service exists one might be opened.

Employers are often in a position to make adjustments to help a local unemployment situation, either by instituting a shorter working-day or dividing a week's work between two or more men, or by manufacturing for stock and making plant improvements and extensions. Employers may also do much to alleviate conditions in times of unemployment by keeping wage rates at their usual level and by assuring workers that their jobs are secure, if they are in a position to do so.

Private building and repair by individual home owners are urged as measures of furnishing employment and it is further recommended that public works be expedited as a means of aiding in periods of unemployment. Because of the length of time communities require to provide money for public works, it is stressed that efforts be directed toward pushing projects for which plans have already been drawn up and money has been appropriated.

In developing resources for relief it is important not to lay down such rigid rules that certain groups in the community are barred from receiving needed assistance. For example, the single man may be as deserving of help as the married man with children, and the non-resident must in some instances be helped until arrangements are made for his return to his home and in other instances he must be treated with the same consideration as needy residents because he is an itinerant laborer with no community to which he may turn for aid.

It is also desirable that, while developing resources for relief, local committees shall provide education and recreational facilities for young people especially. The advantages of such provisions lie not only in the fact that the unemployed are less apt to become disheartened if their time is occupied but are also enabled to secure training which will be useful later in finding work.

Passing to a discussion of the methods of relief, the author states that relief in wages for "made" work has been disappointing. Such work must of necessity be noncompetitive. It must be supplied without regard to competency of persons selected for the job and is therefore wasteful. There is also a tendency to pay for such work at a wage below the current level, with the result that a man must work full time to secure a subsistence wage and has no time to seek real work. "Made" work also has the disadvantage of being ill-adapted for indoor workers, especially women. Of the different kinds of "made" work, improving public buildings and parks is regarded as the best type.

Administration of direct relief is recommended (1) by confidential exchanges where all families aided are listed to prevent duplication of effort by two or more agencies; (2) by strengthening existing agencies to carry a heavier load (3) by avoiding the creation of new relief organizations; (4) by discouraging demoralizing forms of relief such as giving food; and (5) by discouraging charitable loans, as loan services are best administered by credit unions and reputable commercial loan companies.

The author calls attention to the place of publicity in an unemployment emergency and warns against sensational articles. She recommends that contributors to funds be informed of the current situation through some regular channel, such as organization bulletins, news letters and the like, even though no appeal for money is made. To obtain the good will of the public, that public must be informed definitely as to what is being sought, i. e., public buildings, household repairs, lodging houses, shorter working hours in factories, etc.

It is suggested that funds for relief need not be raised in one great campaign. To do this entails much scarehead publicity, and relief organizations might better appeal for more money subsequent to the general campaign and when the money is needed.

A Permanent Program

IN CLOSING, the author states the belief that it would be a real gain to the Nation if the groups which have dealt with unemployment this winter would not disband when the present emergency ends but would continue to study unemployment and measures to combat it. She adds that any comprehensive program for study and control of the problem should include:

1. Provisions for regular employment statistics.
2. Development of an effective public employment exchange.
3. Efforts to induce individual employers and industries to regularize their own employment and make provision for unemployment insurance.
4. Long-range planning of public and private work which can be promptly undertaken in a period of unemployment.
5. Promotion of vocational training and guidance for juveniles.
6. An industrial program for the handicapped.
7. Legislation.

Technological Unemployment in the Printing Industry

THE results of a recent inquiry into the displacement of labor through mechanical feeding of commercial printing presses are presented in the September, 1930, issue of the *American Economic Review*.¹ The study was prompted by the repeated claims that installation of automatic and new high-speed machinery in the press-rooms was creating unemployment, particularly among the press assistants or feeders. The rapid shift from hand to mechanical feeding of cylinder and platen presses has resulted in a constant conflict between the employers and the union concerning the number of men required to handle the presses efficiently.

An analysis of the advance of mechanization showed that up to 1913, 32 years after the introduction of the modern presses and 15 years after automatic feeders appeared on the market, less than 4 per cent of the more than 60,000 cylinder and platen presses installed in the 32-year period were mechanically fed. From that time on, however, the demand for automatic feeding attachments and self-feeding presses grew so rapidly that of the total of 64,288 cylinder and platen presses installed during the 16 years following (1913 to 1928, inclusive) two-thirds were mechanically fed.

Rough calculations made from a comparison of census figures for 1914 and 1927 with data from manufacturers of printing presses, show that the total number of wage earners in book and job printing increased about one-fourth during this period, while the value added by manufacture (corrected for changes in the value of the dollar) more than doubled. These changes seem to indicate that, while the per capita productivity was about three-fifths greater in 1927 than in 1914, the larger demand for printing resulted also in a substantial increase in the number of workers employed.

New York City, as the largest printing center of the country, was selected for a closer study of mechanization and its effects on employment. It was found that the technical changes in this city reflected the general trend for the United States as a whole, though in a more exaggerated form. The new presses had made a more rapid advance and the older ones showed a more pronounced relative decline. The hand-feeding process, for all cylinder presses combined, appears to have been practically at a standstill since 1917, while for the color and perfecting presses it had positively declined since 1920. Platen presses were replaced with high-speed models more generally in New York than elsewhere.

Production of commercial printing in New York City increased 1 per cent more than for the United States as a whole. The value added by manufacture increased 109 per cent, against 108 per cent, but the increase in wage earners was only 15.3 per cent, as against 24.9 per cent for the country. That difference is considered to indicate that greater technical progress had been made in New York press-rooms than elsewhere.

A special survey was made in 36 medium-sized plants of the city, considered typical of the commercial printing industry there, covering the winter periods of 1923-24 and 1928-29. The findings showed

¹ The *American Economic Review*, September, 1930, pp. 442-466: "Unemployment and technical progress in commercial printing," by Elizabeth F. Baker.

that these plants grew not only in equipment and number of press workers as the approximate figures for the United States disclosed, but that the number of men increased more than the number of presses. In 1924 an average of 99.2 men were employed per 100 presses, while in 1929 the average was 100.7 men per 100 presses. This bears out the contention of the employers that installation of new machinery, because of more business, has meant the employment of more instead of fewer men.

The survey, however, also reveals a change in the feeding technique and its effect upon occupations of the personnel. The increase in the total number of presses was 17 per cent, but those fed by hand fell off 14 per cent and those equipped for mechanical feeding increased 60 per cent. A decided change also occurred in the occupations of the workers. The pressmen gained 4.6 men per 100 presses; but the assistants lost 3.2 men per 100 presses, brought about through a drop of 11.4 hand feeders and a gain of 8.2 automatic feeder operators per 100 presses. These figures correspond with others mentioned, from a survey of 17 additional plants, and emphasize changes in occupations through the new processes. They also indicate that instead of reducing the demand for skilled men in proportion to the demand for the less skilled, the technical progress in commercial printing press-rooms has had the opposite effect.

Further investigation into the causes of unemployment disclosed surprisingly few instances actually caused by the introduction of new machinery. Considerable unemployment was found to be the result of mergers, combinations nearly always causing the loss of jobs to workers of one of the plants merged. Letters were sent to the 2,400 members of the local press assistants' union, inquiring whether they had lost jobs during the 5-year period when new presses or feeding attachments were installed. Five per cent replied, citing 24 cases of unemployment and 21 cases of transfer from such cause.

It is emphasized that the relatively small amount of displacement discovered by the inquiry offers no certain forecast for the future, especially in the case of press assistants who are not skilled except in hand feeding and are not willing to learn new methods. The assistants are, however, also confronted with another problem, created by the introduction of the modern high-speed automatically fed press. Many employers contend that it is more economical to reduce the number of presses over which a pressman has charge, and include among his functions the operation of the feeding machine. This would mean still further elimination of assistants, though resulting in some increases for the pressmen. The latter seem more secure from dislodgment by technical changes, as a pressman is supposed to be able to operate any press in his department, so that a transfer from one press to another is merely a matter of routine.

Unemployment in Foreign Countries

THE accompanying table shows detailed monthly statistics of unemployment in foreign countries, as reproduced from official sources, from May, 1929, to the latest available date:

STATEMENT OF UNEMPLOYMENT IN FOREIGN COUNTRIES¹

| Date (end of month) | Australia | | Austria | Belgium | | | | Canada | |
|---------------------|----------------------------|------------------|---|----------------------------------|----------|----------------------|----------|----------------------------|----------|
| | Trade-unionists unemployed | | Compulsory insurance, number unemployed in receipt of benefit | Unemployment insurance societies | | | | Trade-unionists unemployed | |
| | Number | Per cent | | Wholly unemployed | | Partially unemployed | | Number | Per cent |
| | | | | Number | Per cent | Number | Per cent | | |
| 1929 | | | | | | | | | |
| May..... | (²) | | 130,469 | 2,382 | 0.4 | 8,686 | 1.4 | 7,750 | 4.0 |
| June..... | 40,906 | 10.0 | 110,266 | 2,559 | .4 | 11,194 | 1.8 | 5,723 | 2.9 |
| July..... | (²) | | 104,399 | 4,037 | .6 | 16,452 | 2.6 | 6,003 | 3.0 |
| August..... | (²) | | 101,845 | 3,200 | .5 | 15,614 | 2.5 | 7,159 | 3.5 |
| September..... | 52,480 | 12.1 | 104,947 | 3,492 | .5 | 16,714 | 2.6 | 7,654 | 3.7 |
| October..... | (²) | | 125,850 | 3,261 | .5 | 13,930 | 2.2 | 12,716 | 6.0 |
| November..... | (²) | | 167,487 | 6,895 | 1.1 | 13,176 | 2.1 | 19,832 | 9.3 |
| December..... | 56,801 | 13.1 | 226,567 | 15,761 | 2.4 | 29,309 | 4.6 | 24,289 | 11.4 |
| 1930 | | | | | | | | | |
| January..... | (²) | | 273,197 | 22,542 | 3.5 | 25,782 | 4.0 | 22,795 | 10.8 |
| February..... | (²) | | 284,543 | 16,085 | 2.6 | 31,222 | 4.9 | 24,175 | 11.5 |
| March..... | 63,144 | 14.6 | 239,094 | 14,030 | 2.2 | 28,469 | 4.5 | 22,912 | 10.8 |
| April..... | (²) | | 192,477 | 13,715 | 2.2 | 36,605 | 5.8 | 18,581 | 9.0 |
| May..... | (²) | | 162,678 | 12,119 | 1.9 | 38,761 | 6.1 | 20,424 | 10.3 |
| June..... | 80,595 | 18.5 | 150,075 | 12,226 | 1.9 | 41,336 | 6.5 | 21,380 | 10.6 |
| July..... | (²) | (²) | 153,188 | 15,302 | 2.4 | 48,580 | 7.7 | 18,473 | 9.2 |
| August..... | (²) | (²) | 156,145 | 17,747 | 2.8 | 51,649 | 8.2 | 18,232 | 9.3 |
| September..... | 90,379 | 20.5 | 163,894 | 23,693 | 3.8 | 61,623 | 9.9 | 19,356 | 9.4 |
| October..... | | | 192,778 | 27,322 | 4.3 | 54,804 | 8.5 | 22,403 | 10.8 |
| November..... | | | 237,745 | 36,000 | 5.6 | 74,000 | 11.6 | | |

¹ Sources: League of Nations—Monthly Bulletin of Statistics; International Labor Office—International Labor Review; Canada—Labor Gazette; Great Britain—Ministry of Labor Gazette; Austria—Statistische Nachrichten; Australia—Quarterly Summary of Australian Statistics; Germany—Reichsarbeitsblatt, Reichs Arbeitsmarkt Anzeiger; Switzerland—Wirt. u. Social. Mitteilungen, La Vie Economique; Poland—Wiadomosci Statystyczne; Norway—Statistiske Meddelelser; Netherlands—Maandschrift; Sweden—Sociala Meddelanden; Denmark—Statistiske Efterretninger; Finland—Bank of Finland Monthly Bulletin; France—Bulletin du Marché du Travail; Hungary—Magyar Statisztikai Szemle; Belgium—Revue du Travail; New Zealand—Monthly Abstract of Statistics; U. S. Department of Commerce—Commerce Reports; and U. S. Consular Reports.

² Not reported.

³ Figures computed in this office.

UNEMPLOYMENT AND ITS RELIEF

81

STATEMENT OF UNEMPLOYMENT IN FOREIGN COUNTRIES—Continued

| Date (end of month) | Czechoslovakia | | Danzig (Free City of) | Denmark | | Estonia | Finland | France | Germany |
|---------------------|--|----------|---------------------------------|---|----------|--|---------------------------------|--|---------------------------------|
| | Trade-union insurance funds—unemployed in receipt of benefit | | Number of unemployed registered | Trade-union unemployment funds—unemployed | | Number unemployed remaining on live register | Number of unemployed registered | Number of unemployed in receipt of benefit | Number of unemployed registered |
| | Number | Per cent | | Number | Per cent | | | | |
| 1929 | | | | | | | | | |
| May..... | 21,866 | 1.9 | 11,135 | 29,671 | 10.8 | 2,169 | 1,624 | 570 | 1,349,833 |
| June..... | 19,436 | 1.9 | 8,876 | 27,398 | 10.0 | 1,110 | 1,157 | 394 | 1,260,044 |
| July..... | 16,859 | 1.6 | 9,007 | 26,621 | 9.6 | 780 | 1,188 | 399 | 1,251,452 |
| August..... | 18,674 | 1.8 | 8,958 | 25,164 | 9.1 | 609 | 1,859 | 403 | 1,271,990 |
| September..... | 19,468 | 1.9 | 9,296 | 24,175 | 8.7 | 902 | 2,710 | 385 | 1,323,603 |
| October..... | 16,248 | 1.5 | 10,664 | 28,194 | 10.1 | 3,065 | 4,997 | 396 | 1,557,146 |
| November..... | 17,108 | 1.6 | 13,146 | 36,302 | 13.0 | 5,288 | 9,495 | 577 | 2,035,667 |
| December..... | 30,170 | 2.8 | 16,198 | 62,563 | 22.4 | 6,116 | 8,716 | 817 | 2,850,849 |
| 1930 | | | | | | | | | |
| January..... | 39,199 | 3.6 | 19,282 | 55,876 | 20.3 | 5,608 | 12,696 | 1,484 | 3,217,608 |
| February..... | 40,550 | 3.6 | 21,153 | 59,363 | 21.0 | 4,580 | 11,545 | 1,683 | 3,365,811 |
| March..... | 45,567 | 4.0 | 20,376 | 47,109 | 15.6 | 3,575 | 10,062 | 1,630 | 3,040,797 |
| April..... | 42,664 | 3.7 | 18,371 | 33,471 | 11.8 | 2,227 | 7,274 | 1,203 | 2,786,912 |
| May..... | 41,098 | 3.8 | 16,232 | 27,966 | 9.4 | 2,065 | 4,666 | 859 | 2,634,718 |
| June..... | 37,853 | 3.4 | 14,975 | 24,807 | 8.7 | 910 | 3,553 | 1,019 | 2,640,681 |
| July..... | 46,800 | 4.1 | 15,330 | 26,200 | 9.3 | 762 | 4,026 | 856 | 2,765,258 |
| August..... | 52,694 | 4.7 | 15,687 | 26,232 | 9.0 | 1,039 | 5,288 | 964 | 2,883,000 |
| September..... | 57,542 | 5.3 | 16,073 | 27,700 | 9.0 | 1,414 | 7,157 | 988 | 3,004,000 |
| October..... | 61,213 | 5.5 | 17,307 | 32,880 | 11.4 | 3,282 | 10,279 | 1,663 | 3,252,000 |
| November..... | | | 20,272 | 44,200 | 15.3 | | | 4,893 | 3,683,000 |
| December..... | | | | | | | | 11,952 | 4,357,000 |

| Date (end of month) | Germany | | | | | Great Britain and Northern Ireland | | | |
|---------------------|-------------------|----------|----------------------|----------|---|------------------------------------|----------|---------------------|----------|
| | Trade-unionists | | | | | Compulsory insurance | | | |
| | Wholly unemployed | | Partially unemployed | | Number unemployed in receipt of benefit | Wholly unemployed | | Temporary stoppages | |
| | Number | Per cent | Number | Per cent | | Number | Per cent | Number | Per cent |
| 1929 | | | | | | | | | |
| May..... | 419,373 | 9.1 | 315,191 | 6.8 | 1,010,781 | 900,562 | 7.6 | 276,922 | 2.3 |
| June..... | 393,749 | 8.5 | 308,699 | 6.7 | 929,579 | 884,549 | 7.4 | 279,108 | 2.4 |
| July..... | 395,202 | 8.6 | 315,739 | 6.9 | 863,594 | 881,189 | 7.4 | 296,318 | 2.5 |
| August..... | 410,481 | 8.9 | 322,824 | 7.0 | 883,002 | 918,550 | 7.7 | 280,332 | 2.4 |
| September..... | 442,312 | 9.6 | 315,150 | 6.8 | 910,245 | 937,795 | 7.9 | 265,627 | 2.2 |
| October..... | 498,604 | 10.9 | 319,489 | 7.0 | 1,061,134 | 992,769 | 8.2 | 261,711 | 2.2 |
| November..... | 634,790 | 13.7 | 351,947 | 7.6 | 1,387,079 | 1,061,618 | 8.8 | 263,987 | 2.2 |
| December..... | 922,681 | 20.1 | 389,278 | 8.5 | 1,984,811 | 1,071,849 | 8.9 | 272,371 | 2.2 |
| 1930 | | | | | | | | | |
| January..... | 1,004,787 | 22.0 | 501,950 | 11.0 | 2,482,648 | 1,183,974 | 9.8 | 336,474 | 2.8 |
| February..... | 1,076,441 | 23.5 | 593,380 | 13.0 | 2,655,723 | 1,211,262 | 10.0 | 371,840 | 3.1 |
| March..... | 995,972 | 21.7 | 576,153 | 12.6 | 2,547,102 | 1,284,231 | 10.6 | 409,785 | 3.4 |
| April..... | 926,831 | 20.3 | 553,098 | 12.1 | 2,081,068 | 1,309,014 | 10.8 | 451,506 | 3.8 |
| May..... | 895,542 | 19.5 | 552,318 | 12.0 | 1,889,240 | 1,339,595 | 11.1 | 516,303 | 4.2 |
| June..... | 896,465 | 19.6 | 578,116 | 12.6 | 1,834,662 | 1,341,818 | 11.1 | 569,931 | 4.7 |
| July..... | 930,777 | 20.5 | 631,903 | 13.9 | 1,900,961 | 1,405,981 | 11.6 | 664,107 | 5.5 |
| August..... | 984,384 | 21.7 | 670,466 | 14.8 | 1,947,811 | 1,500,990 | 12.4 | 618,658 | 5.1 |
| September..... | 1,011,820 | 22.5 | 677,627 | 15.1 | 1,965,348 | 1,579,708 | 13.1 | 608,692 | 5.0 |
| October..... | 1,061,570 | 23.6 | 693,379 | 15.4 | 2,071,730 | 1,725,731 | 13.9 | 593,223 | 4.8 |
| November..... | | | | | 2,353,980 | 1,836,280 | 14.8 | 532,518 | 4.3 |

STATEMENT OF UNEMPLOYMENT IN FOREIGN COUNTRIES—Continued

| Date (end of month) | Great Britain | Hungary | | | Irish Free State | | Italy | | Latvia |
|---------------------|--|----------------------------|-------------------|----------|---------------------------------|----------|---------------------------------|----------------------|--|
| | Number of persons registered with employment exchanges | Trade-unionists unemployed | | | Compulsory insurance—unemployed | | Number of unemployed registered | | Number unemployed remaining on live register |
| | | Christian (Budapest) | Social-Democratic | | Number | Per cent | Wholly unemployed | Partially unemployed | |
| | | | Number | Per cent | | | | | |
| 1929 | | | | | | | | | |
| May | (²) | 787 | 13,266 | 8.8 | 24,256 | 8.6 | 227,682 | 8,713 | 1,433 |
| June | 1,117,807 | 787 | 13,921 | 9.5 | (²) | | 193,325 | 10,970 | 1,236 |
| July | 1,154,129 | 801 | 13,964 | 9.3 | (²) | | 201,868 | 13,503 | 1,205 |
| August | 1,155,803 | 833 | 14,007 | 9.5 | 21,834 | 7.8 | 216,666 | 19,650 | 1,008 |
| September | 1,181,862 | 783 | 13,922 | 9.5 | (²) | | 228,831 | 16,835 | 1,582 |
| October | 1,234,388 | 967 | 14,215 | 9.7 | (²) | | 297,382 | 17,793 | 4,204 |
| November | 1,285,458 | 1,033 | 15,910 | 10.3 | 26,186 | 9.2 | 332,833 | 19,694 | 8,479 |
| December | 1,510,231 | 1,107 | 19,181 | 13.0 | (²) | | 408,748 | 21,349 | 8,134 |
| 1930 | | | | | | | | | |
| January | 1,491,519 | 1,161 | 21,533 | 14.5 | 31,592 | 11.1 | 466,231 | 23,185 | 9,263 |
| February | 1,539,265 | 1,120 | 21,309 | 14.8 | (²) | | 456,628 | 26,674 | 8,825 |
| March | 1,677,473 | 983 | 21,016 | 14.6 | (²) | | 385,432 | 28,026 | 6,494 |
| April | 1,698,386 | 906 | 20,139 | 13.7 | 26,027 | 9.2 | 372,236 | 24,305 | 3,683 |
| May | 1,770,051 | 875 | 19,875 | 13.6 | (²) | | 367,183 | 22,825 | 1,421 |
| June | 1,890,575 | 829 | 18,960 | 13.0 | (²) | | 322,291 | 21,887 | 779 |
| July | 2,011,467 | 920 | 19,081 | 13.2 | 23,393 | 8.2 | 342,061 | 24,209 | 607 |
| August | 2,039,702 | 847 | 21,013 | 14.5 | (²) | | 375,548 | 24,056 | 573 |
| September | 2,114,955 | 874 | 22,252 | 16.0 | | | 394,630 | 22,734 | 1,470 |
| October | 2,200,413 | 999 | 22,914 | 16.7 | | | 446,496 | 19,081 | 6,058 |
| November | 2,274,338 | | | | | | 534,356 | 22,125 | |

| Date (end of month) | Netherlands | | New Zealand | | Norway | | Number unemployed remaining on live register | Poland |
|---------------------|---|-------------------|----------------------------|------------------|--|----------|--|----------------------|
| | Unemployment insurance societies—unemployed | | Trade-unionists unemployed | | Trade-unionists (10 unions) unemployed | | | |
| | Number | Per cent | Number | Per cent | Number | Per cent | | |
| 1929 | | | | | | | | |
| May | 10,820 | 3.0 | 5,276 | 9.3 | 4,694 | 12.5 | 18,000 | 119,877 |
| June | 9,987 | 2.6 | (²) | | 4,337 | 11.3 | 14,547 | 105,065 |
| July | 12,030 | 3.1 | (²) | | 3,999 | 10.2 | 12,417 | 97,297 |
| August | 12,701 | 3.3 | 5,226 | 9.4 | 4,245 | 10.7 | 12,493 | 90,094 |
| September | 12,517 | 3.2 | (²) | | 4,854 | 12.1 | 15,525 | 81,848 |
| October | 13,639 | 3.5 | (²) | | 5,682 | 14.0 | 18,420 | 91,035 |
| November | 20,941 | 5.3 | 3,018 | 5.6 | 6,256 | 15.4 | 20,546 | 125,066 |
| December | 48,609 | 12.3 | (²) | | 7,693 | 18.9 | 22,092 | 185,314 |
| 1930 | | | | | | | | |
| January | 56,535 | 13.9 | (²) | | 7,786 | 19.0 | 22,549 | 241,974 |
| February | 50,957 | 12.5 | 4,348 | 8.5 | 7,851 | 18.9 | 22,974 | 274,708 |
| March | 34,996 | 8.6 | (²) | | 7,503 | 17.8 | 22,533 | 289,469 |
| April | 28,421 | 6.9 | (²) | | 6,701 | 15.8 | 19,829 | 271,225 |
| May | 26,211 | 6.3 | 5,884 | 10.9 | 5,239 | 12.2 | 16,376 | 224,914 |
| June | 23,678 | 5.5 | (²) | (²) | 4,700 | 10.8 | 13,939 | 204,982 |
| July | 29,075 | 6.7 | (²) | (²) | 4,723 | 10.8 | 11,997 | 193,687 |
| August | 32,755 | 7.6 | 7,197 | 13.5 | 5,897 | 13.4 | 12,923 | 173,627 |
| September | ⁴ 32,769 | ⁴ 8.4 | | | 7,010 | 15.7 | 17,053 | 170,467 |
| October | ⁴ 37,533 | ⁴ 9.4 | | | 8,031 | 18.0 | 20,363 | 165,154 |
| November | ⁴ 46,807 | ⁴ 11.8 | | | | | 24,544 | ⁵ 211,918 |

² Not reported.⁴ Provisional figures.⁵ Nov. 29, 1930.

STATEMENT OF UNEMPLOYMENT IN FOREIGN COUNTRIES—Continued

| Date (end of month) | Poland | | | | Rumania | Saar Territory | Sweden | |
|---------------------|---|----------|---|----------|--|------------------------------|----------------------------|----------|
| | Industrial workers | | | | Number unemployed remaining on live register | Number unemployed registered | Trade-unionists unemployed | |
| | Extractive and manufacturing industries—wholly unemployed | | Manufacturing industries—partially unemployed | | | | Number | Per cent |
| | Number | Per cent | Number | Per cent | | | | |
| 1929 | | | | | | | | |
| May..... | 104,200 | 11.6 | 135,608 | 25.1 | 6,819 | (2) | 24,452 | 8.1 |
| June..... | 91,000 | 10.2 | 98,708 | 18.6 | 5,849 | 3,762 | 21,764 | 7.4 |
| July..... | 84,300 | 9.7 | 89,639 | 17.7 | 3,909 | 3,238 | 20,048 | 6.5 |
| August..... | 77,500 | 9.0 | 82,297 | 15.7 | 3,714 | 3,398 | 19,914 | 6.3 |
| September..... | 68,700 | 8.0 | 70,055 | 13.2 | 5,171 | 3,990 | 22,271 | 7.2 |
| October..... | 76,818 | 8.9 | 84,060 | 15.3 | 5,481 | 5,025 | 27,529 | 8.6 |
| November..... | 108,200 | 12.5 | 94,890 | 17.5 | 6,958 | 6,408 | 33,581 | 10.4 |
| December..... | 166,240 | 19.5 | 94,601 | 18.5 | 6,866 | 10,515 | 53,977 | 16.6 |
| 1930 | | | | | | | | |
| January..... | 219,333 | 24.3 | 108,812 | 24.8 | 12,622 | 11,307 | 45,636 | 14.2 |
| February..... | 251,627 | 27.5 | 120,058 | 28.4 | 15,588 | 11,949 | 45,460 | 13.2 |
| March..... | 265,135 | 28.7 | 120,844 | 28.9 | 13,045 | 8,882 | 42,278 | 12.5 |
| April..... | 246,670 | 27.0 | 113,594 | 26.9 | 13,412 | 7,522 | 38,347 | 11.1 |
| May..... | 201,116 | 23.0 | 104,469 | 24.2 | 25,096 | 7,362 | 28,112 | 8.3 |
| June..... | 182,600 | 21.6 | 94,375 | 22.2 | 22,960 | 6,330 | 28,956 | 8.1 |
| July..... | 170,665 | 20.5 | 70,597 | 17.0 | 23,236 | 7,095 | 27,170 | 7.8 |
| August..... | 150,650 | 18.3 | 74,289 | 17.1 | 24,209 | 7,099 | 28,539 | 8.1 |
| September..... | 146,642 | 17.8 | 74,285 | 16.5 | 39,110 | 7,527 | 32,800 | 9.4 |
| October..... | | | | | 36,147 | 9,013 | 43,927 | 12.2 |
| November..... | | | | | | 12,110 | | |

| Date (end of month) | Switzerland | | | | Yugoslavia |
|---------------------|--------------------|----------|----------------------|----------|---------------------------------|
| | Unemployment funds | | | | |
| | Wholly unemployed | | Partially unemployed | | Number of unemployed registered |
| | Number | Per cent | Number | Per cent | |
| 1929 | | | | | |
| May..... | (2) | (2) | (2) | (2) | 10,583 |
| June..... | (2) | 0.7 | (2) | 1.0 | 9,017 |
| July..... | (2) | (2) | (2) | (2) | 7,652 |
| August..... | (2) | (2) | (2) | (2) | 5,790 |
| September..... | (2) | .8 | (2) | .9 | 6,755 |
| October..... | (2) | (2) | (2) | (2) | 4,739 |
| November..... | (2) | (2) | (2) | (2) | 5,026 |
| December..... | 12,309 | 4.2 | 9,805 | 3.3 | 5,663 |
| 1930 | | | | | |
| January..... | 10,523 | 4.4 | 10,710 | 4.4 | 8,508 |
| February..... | 9,971 | 4.1 | 11,445 | 4.7 | 9,437 |
| March..... | 7,882 | 2.6 | 12,642 | 4.2 | 9,739 |
| April..... | 5,203 | 2.1 | 12,755 | 5.3 | 12,052 |
| May..... | 5,356 | 2.2 | 13,129 | 5.4 | 8,704 |
| June..... | 5,368 | 1.7 | 17,688 | 5.7 | 6,991 |
| July..... | 4,751 | 1.9 | 15,112 | 6.2 | 7,236 |
| August..... | 5,703 | 2.3 | 19,441 | 7.9 | 6,111 |
| September..... | 7,792 | 2.5 | 26,111 | 8.3 | 5,973 |
| October..... | 7,399 | 3.0 | 23,309 | 9.4 | 6,609 |

² Not reported.

Unemployment Insurance Deficit in Germany

ACCORDING to a report of the United States consulate general in Berlin, the unemployment insurance, in spite of a renewed increase in contributions as of October 6, 1930, from $5\frac{1}{2}$ to $6\frac{1}{2}$ per cent of wages, again faces a deficit—of 300,000,000 marks (\$71,400,000)—for which no funds are foreseen as yet. The number of unemployed during the quarter ending on September 30, 1930, rose from 2,600,000 to 3,030,000 as against corresponding figures of from 1,300,000 to 1,400,000 for the 1929 quarter. The steady increase of the outlay for unemployment benefits has upset the Government estimates of budgetary expenditures.

Commission on Unemployment Insurance in Great Britain

ON DECEMBER 9, 1930, the Prime Minister announced in the House of Commons the personnel of a royal commission appointed to study and report upon the whole matter of unemployment insurance. Judge Holman Gregory is chairman, the other members being Councillor W. Ashbury, Prof. Henry Clay, Dr. H. J. W. Hetherington, Mr. E. P. C. Lascelles, Mrs. C. D. Rackham, and Mr. H. M. Trouncer. According to the Manchester Guardian (December 10, 1930), there was some comment from the Labor members of Parliament on the fact that the commission included no representative of the trade-unions, in response to which Mr. MacDonald explained that there were no direct representatives of either workers or employers; the commission was expected to take evidence from both sides, and it was thought that "the nature of the inquiry and the necessity for expedition were far better met by the composition we have announced." The terms of reference for the commission are as follows:

To inquire into the provisions and working of the unemployment insurance scheme and to make recommendations with regard to (1) its future scope, the provisions which it should contain, and the means by which it may be made solvent and self-supporting, and (2) the arrangements which should be made outside the scheme for the unemployed who are capable of and available for work.

The commission, it was stated, would organize at once and was expected to begin hearings before Christmas. The need for haste was emphasized, owing to the condition of the unemployment insurance fund and the steadily mounting numbers of the unemployed. The present position of the fund is thus summarized by the Guardian:

The position of the unemployment fund at present is that it owes £56,000,000 [\$277,524,000] to the exchequer, and the extra loan of £10,000,000 [\$48,665,000] voted by the Commons last week will only last until the middle of April. In addition to this the exchequer pays the "transitional benefit," and a supplementary estimate of £10,000,000 was voted by the House of Commons last night for this purpose. Altogether, £107,000,000 [\$520,715,500] a year is involved.

Unemployment Relief Legislation of New Zealand

THE British Ministry of Labor Gazette reports in its issue for December, 1930, that New Zealand passed, in October, an act for dealing with unemployment, embodying some of the recommendations offered by the committee on unemployment appointed in the fall of 1928. (See Labor Review, July, 1930, p. 54.) The act provides for the establishment of an unemployment relief board, authorizes the creation of an unemployment relief fund, and imposes an annual levy for the benefit of this fund.

Unemployment Relief Board

THE board is to consist of the Minister of Unemployment, who will be chairman, two persons appointed on his recommendation, two nominated by organizations of employers in primary and secondary industries, two nominated by workers' organizations, and one nominated by the New Zealand Returned Soldiers' Association.

Its main functions are to make arrangements with employers for giving work to unemployed persons, to take steps to reduce unemployment by promoting the growth of primary and secondary industries, and to make recommendations for the payment of sustenance allowances to unemployed persons. In the exercise of its functions the board is empowered to establish labor exchanges or cooperate in the management of existing exchanges; to insure cooperation between departments of State, local authorities, public bodies, and other persons engaged in carrying out public works; to assist workers, by means of grants and loans, to pursue courses of vocational training and to organize such courses, and to provide, by means of loans or grants, for the carrying out of development works. The board is further empowered to carry out inquiries and to appoint local committees and define their powers.

The Levy and Fund

THE act imposes a levy of 30s. (\$7.30) a year on all male persons 20 years old and upward, except those in receipt of specified military pensions, and natives, as defined by an act of 1909, who do not elect to become voluntary contributors. The levy may be paid in quarterly installments, the first of which is due December 1, 1930. The governor-general is authorized to exempt from this levy any person or classes of persons when in his judgment grounds of public policy demand such action.

The unemployment fund is to consist of the net proceeds of the levy, plus a contribution from the Government of an amount equal to one-half the expenditures from the fund during each year.

Benefits

SUSTENANCE allowances are payable to contributors to the fund after a waiting period of 14 days, provided they have been residents of New Zealand for at least six months. The normal allowance is to be 21s. (\$5.11) a week for the contributor, 17s. 6d. (\$4.26) for his wife or other person who, in the opinion of the board, is in charge of his home and family, and 4s. (97 cents) a week for each child. No allowance will be paid in cases where a contributor refuses to accept suitable employment (the board being the judge as to suitability), whether offered by the board or otherwise. Normally, the

allowance is payable only for a period not exceeding 13 consecutive weeks, but the board is given power to reduce the waiting period and to extend the benefit period, if it thinks best.

Workers' Objections to the Bill

ACCORDING to the New Zealand Worker (July 23, 1930), the bill when introduced was sharply attacked by the workers on a number of counts. The summary of the act as passed shows that they succeeded in eliminating some of the features to which they objected, but that in other respects it is still open to their criticisms. Thus, the workers objected to the flat levy, holding that the contribution should be graded according to income; this objection they based upon the formal recommendations of the committee on unemployment, which had proposed such a gradation. They held that the failure of the bill to include women in the scope of its benefits was a grave mistake; women suffer as keenly as men from the effects of unemployment, and often have dependents who are involved in the same suffering. They felt that the benefits should be greater, the waiting period shorter, and the Government's contribution to the fund larger. Especially they objected to the failure of the bill to make any direct provision for increasing work, holding that provision of work is far more important than relief of suffering caused by lack of work.

INDUSTRIAL AND LABOR CONDITIONS

Scientific Management Institute in China

AN INSTITUTE of Scientific Management has recently been established in China, which is to be governed by a committee of 15 members under the chairmanship of the Minister of Commerce and Labor.¹ The institute has already set up eight technical committees to deal, respectively, with undertakings, staff, finance, accounting, general management, industrial management, marketing, and enterprise. The large majority of the institute's members are important industrialists of Shanghai. The new agency intends to study the principles of scientific management, to increase industrial and commercial efficiency, and to develop the people's earning capacity. In this connection it will gather materials concerning scientific management and industrial rationalization and will discuss, formulate, and put into practice new methods to improve industrial and commercial administration.

Reorganization Commission for English Coal Industry

THE English coal mines act of 1930 (see Labor Review, October, 1930, p. 110) provided for the formation by the Board of Trade of a commission whose function should be to further the reorganization of the coal-mining industry with a view to facilitating the production, sale, and supply of coal. Under date of December 10, 1930, the Manchester Guardian announces that this commission has been formed, and consists of the following members: Sir Ernest Arthur Gowers, chairman; Mr. Lawrence Durning Holt, Mr. Joseph Jones, Sir Felix Pole, and Sir William Edward Whyte. The commission is authorized to exercise far-reaching powers:

The act lays it down that the duty of the commission is "to promote and assist, by the preparation of schemes and otherwise, the amalgamation of undertakings consisting of, or comprising, coal mines where such amalgamations appear to the commission to be in the national interest." It may hold inquiries and employ technical agents. It has power to require owners to submit amalgamation or absorption schemes, and, if they fail, may itself prepare schemes and submit them for sanction by the railway and canal commission.

It is provided that commissioners must not be members of the House of Commons, and that within three months after their appointment they must dispose of any interests they may have in coal mines.

¹ International Labor Office. Industrial and Labor Information, Geneva, Dec. 8, 1930, p. 374.

Labor Conditions in Sumatra in 1930

IN COMPANY with the rest of the world, Sumatra suffered from the effects of economic depression during 1930. In a report for the quarter ending September 30, 1930, the American consul, Walter A. Foote, at Medan, Sumatra, stated that unemployment among both Europeans and Orientals was increasing in North Sumatra on account of the reduced activity on the plantations and in the business houses in the cities. The number of laborers on the European plantations in June, 1930, was 334,200, of whom 272,200 were contract coolies. At the end of September, 1930, these numbers had been reduced to 327,600 and 268,200, respectively, and reductions were still being made.

Most of the discharged European workers were being repatriated by their employers and a few of the Dutchmen were being repatriated by the local government, according to the report, but the Dutchmen born in the Netherland East Indies could not be sent to Holland at government expense and were said to be rapidly becoming destitute. Contract laborers are more fortunate than the free laborers as regards employment in that they can not be discharged except by mutual consent and permission from the government labor inspectors, and when their term of duty expires their employers are required by law to repatriate them.

Before the recent depression in the agricultural industries the planters and local government officials had encouraged contract laborers to settle in Sumatra upon the expiration of their contracts, but because of the prevailing depression the governor of the East Coast of Sumatra issued instructions stating that Javanese laborers would not be granted permission to remain in North Sumatra upon completion of their contracts unless they could furnish evidence that they would be provided for through colonization or otherwise. Upon receipt of these instructions the General Association of Rubber Planters sent a circular to the planters saying that all Javanese contract laborers who might be discharged must be returned to Java at the employers' expense.

In spite of the depressed conditions, however, and the growing unemployment, the report states that there had been no strikes or other labor troubles in North Sumatra during the period under review.

Wages of the white personnel on many of the plantations and in the business houses in the cities had been reduced from 10 to 25 per cent. The wages of oriental laborers on the plantations had remained stable but those of servants, chauffeurs, and other laborers had been reduced slightly.

The cost of living, including rents, had remained unchanged, except that the prices of some foodstuffs had risen.

CARE OF THE AGED

Old-Age Pensions for Motion-Picture Operators in New York City

AN OLD-AGE pension plan has been adopted by Motion-Picture Machine Operators' Union, Local No. 306, New York City.

Under the plan a pension of \$25 a week will be paid to superannuated members 60 years of age and over, who have been in good standing in the union for 15 years, and who are totally disabled for work. The plan goes into effect January 1, 1931.

The funds are to be raised, at least in part, from the operation of a truck advertising business which will be carried on by the union through a subsidiary company.

New Fraternal Home For Aged

IN THE Bureau of Labor Statistics report on care of the aged in the United States (Bulletin 489) it was noted (p. 174) that the Ancient Order of Gleaners, a fraternal insurance organization, was accumulating funds to be used for the construction of a home for aged and disabled members.

A communication from the president of that order states that the home has been constructed and is now in operation, having been dedicated September 13, 1930. The building is a 2½-story frame structure and is situated at Alma, Mich. There are already 16 persons in residence there. The building will accommodate a maximum of 40 persons.

To obtain admission to the home the applicant must be a member of the order and have reached his sixtieth birthday. There are no religious or nationality requirements. There is no entrance fee, but all property or life insurance possessed by the applicant must be turned over to the society upon entering the home. Both sexes and married couples are accepted.

Residents are required to perform such light duties about the home and grounds as their physical condition permits.

The home has a resident nurse and furnishes all dental, medical, and nursing care, free of charge. Residents are also supplied with "a limited allowance of spending money."

INDUSTRIAL ACCIDENTS AND HYGIENE

Effects of Exposure of Animals to Vapors of Ethylene Oxide

A STUDY of the acute response of guinea pigs to ethylene oxide gas, one of the newer chemical products coming into industrial use, has been made by the United States Bureau of Mines in cooperation with the Carbide & Carbon Chemicals Corporation.¹

Ethylene oxide is used as an intermediate in the synthesis of other compounds such as methyl, ethyl, and butyl cellosolve and as a fumigant either alone or mixed with carbon dioxide. A fumigant is being marketed at the present time under the trade name "Carboxide," which contains 1 part ethylene oxide and 8 parts carbon dioxide.

Ethylene oxide is a colorless gas at ordinary room temperature. It possesses a mild sweetish odor and is readily soluble in water.

The study showed only the acute effects produced upon guinea pigs by a single exposure and the experiments were planned to give information relative to the concentration and periods of exposure which produce slight, moderate, or serious response.

The symptoms exhibited by the animals subjected to the test were, in the order of occurrence, nasal irritation; eye irritation; blood-tinged, frothy, serous exudate from nostrils; unsteadiness on feet, and staggering; inability to stand; respiratory disturbances; dyspnea and gasping; and death. Most of these symptoms were produced with exposure to concentrations of 8.5 to 0.3 per cent by volume. Exposure to 0.13 and 0.06 per cent caused eye and nose irritation and no distinct symptoms resulted from exposure to 0.025 per cent. In animals dying within a few hours following exposure the principal pathological findings were marked irritation of the respiratory system, while in animals dying 2 to 6 days after exposure lobar and lobular pneumonia and parenchymatous changes in the kidneys were found. Death occurred in a few minutes in animals exposed to 5 to 10 per cent, while exposure to 0.3 to 0.6 per cent of the vapor for 30 to 60 minutes was found to be dangerous to the life of the animals exposed, 0.3 per cent was the maximum which could be borne for 60 minutes without serious disturbances, and 0.025 was found to be the maximum allowable concentration for several hours without serious effects. From the standpoint of relative toxicity for concentrations causing acute injury, ethylene oxide is said to be less harmful than hydrogen chloride and sulphur dioxide and more harmful than chloroform and carbon tetrachloride, and similar to ammonia. The odor of ethylene oxide is not strong enough to give distinct warning of harmful concentrations in the air but it causes intolerable irritation to the eyes and nose when present in high concentrations, and moderate though distinct irritation in comparatively safe concentrations. In order to avoid serious injury, however, this irritation must be taken as warning of a dangerous atmosphere.

¹ United States. Public Health Service. Public Health Reports, Aug. 8, 1930. Acute response of guinea pigs to vapors of some new commercial organic compounds. IV.—Ethylene oxide, by C. P. Waite and others, pp. 1832-1843.

Promotion of Safety in the Mining Industry

INFORMATION circular No. 6400, issued by the United States Bureau of Mines, calls attention to the work performed by the safety division of the bureau. The activities of the division are at ordinary times directed largely to securing and disseminating data on safety in mining. Among the numerous studies made, or being made, concerning safety and health in mining are those in connection with the causes and methods of prevention of mine explosions, explosibility of dust and gases, explosives and blasting, haulage, electricity, falls of persons or material, ventilation, dusts, high temperatures, timbering, lighting, machinery, and in fact practically anything which may result in accidents of any kind in or around mines.

During the fiscal year ending June 30, 1930, 112,570 persons in mining and allied industries were instructed in first aid to the injured and in the use of various kinds of mine rescue apparatus. It is conservatively estimated that as a result of this training at least 200 lives are saved annually. Many employers are also realizing that employees who are given such training not only know what to do in a case of emergency but tend to become "safety minded," and that aside from the humanitarian effect such training has a definite value in saving dollars and cents.

Additional accident-prevention work is carried out through organization of and attendance at safety meetings and exhibits of a safety or health nature. Underground examinations of mines are made at the time of mine disasters, and also at ordinary periods. The subsequent reports give descriptions of safety conditions, with specific suggestions as to feasible methods of increasing safety. Many such reports are not published, but are transmitted confidentially to the mine operator.

Mine rescue cars are located in 10 different States and in Alaska, and mine rescue stations have been established in 2 of these and in 9 other States. Each mine rescue car and station is fully supplied with equipment and devices for use in case of mine fire or explosion, and at time of a mine disaster the equipment and available forces are immediately placed at the disposal of the State or company authorities for such assistance as may be desired.

The circular states that considerable data have been obtained regarding good safety methods, systems, and records in connection with the operation of mines. "So many good [safety] records have been made available that there is now no question that mining can be conducted as safely as any other industry, though possibly the accomplishment of this result will require the exertion of more effort than in most other lines of occupation." This condition is to a great extent due to the excellent work of the safety division of the Bureau of Mines.

Labor Union Safety Campaign in New York

THE annual report of the industrial commissioner of New York for the year ending December 31, 1929, emphasizes the important steps taken by the State authorities to secure the active cooperation of the workers in accident prevention. While the intense interest shown during recent years in the reduction of industrial accidents

seemed to be continually increasing among the employers, it was found that a definite tie-up of the workers with the safety campaign was lacking. A meeting was consequently held by the governor on June 26, 1929, at which more than 200 invited leaders of organized labor were present, and a commission was appointed to formulate plans for education of the workers in accident prevention.

The program adopted consisted in appointment of a safety and health committee by each local in each industry, to study and report on unsafe habits and practices within the control of the individual worker, together with safe and healthful habits and practices; discussion of safe and unsafe practices at union meetings; investigation of causes of accidents; reports of lack of safeguards; and safety conferences, with labor department speakers, two or three times a year.

The labor union committee for industrial-accident prevention, which was appointed by the commission, has been very active. Many local unions have appointed safety and health committees, and a number of applications have been received for display of the department's safety exhibit and for safety addresses. A series of radio talks on safety has also been prepared.

Much progress has been made and more is expected of the tripartite plan of the department, in which the department of labor enforces the law and advises on methods for removal of hazards, the employer carries out the requirements of the law and conducts his operations in accordance with safety ideals, and organized labor educates its members in safe conduct.

COURT DECISIONS RELATING TO LABOR

Radio Station Employee Not Covered by State Compensation Law in Washington

ACCORDING to a decision of the Supreme Court of the State of Washington, a radio operator or a person engaged in work on an integral part of the broadcasting system is engaged in interstate commerce and if injured can not recover under the State workmen's compensation law. (*Van Dusen v. Department of Labor and Industries*, 290 Pac. 803.)

From the facts of the case it appears that the Northwest Radio Service Co. owns and operates radio station KGA at Spokane, Wash. The station at all times was connected by telephone lines with cities in other States for the purpose of receiving and rebroadcasting programs originating in New York, Chicago, St. Louis, Kansas City, and San Francisco. On March 17, 1929, after the station signed off at about 11.15 p. m., the employees of the station commenced operations for the installation of an ice machine, to produce cold water for cooling the radio tubes used in the transmission of programs. In the course of the work it was necessary to move the switchboard, an integral part of the apparatus used in broadcasting programs from KGA. While attempting to move the switchboard, Donald L. Van Dusen was accidentally electrocuted. He was an employee of the radio station and at the time of his death was engaged in work classified as extrahazardous under the workmen's compensation act, therefore his widow petitioned for compensation. The department of labor and industries rejected the claim and was upheld in this action by the Superior Court of Spokane County, Wash. Thereupon the case was appealed to the Washington Supreme Court. The question involved was whether the removal of the switchboard, preparatory to the installation of the ice machine, was a work so closely related to interstate commerce, in which the station was engaged, as to be a part of such commerce. If Van Dusen, at the time of his death, was engaged in work so closely related to interstate commerce as to be practically a part of it, the department of labor and industries correctly rejected the claim under the workmen's compensation law.

The State supreme court cited the case of *Kinzell v. Chicago, Milwaukee & St. Paul Ry. Co.* (250 U. S. 130, 39 Sup. Ct. 412, 414) which held that the doing of work which has for its immediate purpose the furthering of the conduct of interstate commerce constitutes an employment in such commerce. Among other cases cited was that of *New York Central R. R. Co. v. Porter* (249 U. S. 168, 39 Sup. Ct. 188) in which the court held that—

An employee of a railway company killed by a train while removing snow from a space between the platform and a track used in interstate commerce, as well as intrastate commerce, was employed in interstate commerce, and the resulting rights and liabilities were determined by the Federal employers' liability act, and that the State workmen's compensation act was inapplicable.

In determining whether the widow was entitled to compensation, the court used the test applied in the case of *Shanks v. Delaware, etc., Railroad Co.* (36 Sup. Ct. 188) by asking the question, "Was the employee, at the time of the injury, engaged in interstate transportation or in work so closely related to it as to be practically a part of it?" Applying this test, the court held that under the evidence the telephone exchange was an integral part of the broadcasting system which had been used in interstate commerce, and the removal of the switchboard was work so closely related to interstate commerce as to be practically a part of it. The court said:

It must be held in the case now before us that Mr. Van Dusen at the time of his death was engaged in work so closely related to interstate commerce as to be a part of it. This case is distinguished from the *Shanks* case in that there Shanks, at the time of his death, was doing work [repairing machinery used in repair work] which was one step further removed from interstate commerce than was Mr. Van Dusen in the present case. Here the telephone exchange was an integral part of the broadcasting system and had been used in connection therewith. It was pointed out in the *Shanks* case that one replacing a drawbar in a car then used in interstate commerce, or carrying a sack of bolts from a tool car to repair a bridge used in such commerce, was engaged in work so intimately connected with interstate commerce as to be a part of it. The work in which Mr. Van Dusen was engaged at the time of his death was of the same character.

The judgment of the superior court holding the State workmen's compensation act inapplicable was therefore affirmed.

COOPERATION

New Insurance Service for Consumers' Cooperative Movement

THE cooperative congress, held in October, 1930, authorized the officers of the Cooperative League to proceed with the formation of a brokerage agency to handle the writing of casualty insurance and fire insurance other than on furniture. The January, 1931, issue of Cooperation, official organ of the league, announces that this new department has been organized and went into operation December 16. The insurance activities will be carried on by the department through an independent corporation organized under the name Clusa Service (Inc.), the stock of which will be held in trust by the board of directors of the league under a special trust agreement.

Requests for fire insurance on furniture will be turned over to the Workmen's Furniture Fire Insurance Society, and requests for life insurance to the New Era Life Association. For other lines of fire and casualty insurance, agreements have been made with certain mutual companies to write the policies, the insurance department receiving a commission on all such business.

Fidelity bonding for bonded officers of the affiliated societies is one of the lines which will be carried on through the new department.

Condition of the Cooperative Movement in Great Britain, 1928 and 1929

IN SPITE of widespread unemployment and depressed business conditions in Great Britain in 1929, the cooperative movement showed progress as compared with the preceding year. The number of societies showed a decrease, probably due to amalgamations among the retail societies, but sales, capital, and value of goods manufactured all showed an increase. The details for each type of society are shown in the table below:

DEVELOPMENT OF COOPERATIVE SOCIETIES IN GREAT BRITAIN, 1928 AND 1929,¹
BY TYPE OF SOCIETY

| Item | 1928 | 1929 | Per cent of change |
|----------------------------------|-----------------|-----------------|-----------------------|
| Retail societies: | | | |
| Number..... | 1,293 | 1,272 | -1.6 |
| Membership..... | 5,807,000 | 6,114,000 | +5.3 |
| Sales..... | \$1,010,538,877 | \$1,049,895,600 | +3.9 |
| Capital..... | \$608,385,498 | \$651,930,940 | +7.2 |
| Value of goods manufactured..... | \$188,066,214 | \$190,147,733 | +1.1 |
| Dividends on sales..... | \$93,335,936 | \$97,865,315 | +4.9 |

¹ Data are from Great Britain, Ministry of Labor Gazette, issues of November, 1929, and November, 1930.

DEVELOPMENT OF COOPERATIVE SOCIETIES IN GREAT BRITAIN, 1928 AND 1929,
BY TYPE OF SOCIETY—Continued

| Item | 1928 | 1929 | Per cent of change |
|----------------------------------|--------------------|--------------------|-----------------------|
| Wholesale societies: | | | |
| Number..... | 12 | 12 | (³) |
| Sales..... | \$501, 291, 036 | \$523, 834, 396 | +4.5 |
| Capital..... | \$237, 154, 278 | \$259, 944, 098 | +9.6 |
| Value of goods manufactured..... | \$174, 839, 607 | \$187, 283, 238 | +7.1 |
| Workers' societies: | | | |
| Number..... | 88 | 84 | -4.5 |
| Membership..... | 30, 732 | 31, 768 | +3.4 |
| Sales..... | \$18, 336, 972 | \$18, 580, 297 | +1.3 |
| Capital..... | \$10, 229, 383 | \$7, 898, 330 | -22.8 |
| Value of goods manufactured..... | \$17, 113, 563 | \$17, 110, 127 | (³) |
| All types of societies: | | | |
| Number..... | 1, 383 | 1, 358 | -1.8 |
| Sales..... | \$1, 530, 166, 885 | \$1, 592, 310, 293 | +4.1 |
| Capital..... | \$855, 769, 159 | \$919, 773, 368 | +7.5 |
| Value of goods manufactured..... | \$380, 019, 384 | \$394, 541, 098 | +3.8 |

¹ Not including the joint society which administers the tea plantations.² No change.³ Includes sales of bacon factory of English wholesale to amount of \$6,749,836, for which there are no comparable figures for earlier years.⁴ Decrease of less than one-tenth of 1 per cent.

Jewish Cooperative Movement in Palestine

AN INTERESTING account, both of the cooperative movement in Palestine and of the economic conditions which form its background, is given in a recent British official report on Palestine.¹

The cooperative movement in Palestine is entirely Jewish, only one Arab society having been formed and this failed.

At the end of May, 1930, there were 249 Jewish cooperative societies of all types registered, but only 173 were actually in operation. Of these, 39 were agricultural societies, 52 were credit societies, 27 were industrial productive organizations, 34 were land and construction societies, 7 were societies of various types, and 14 were cooperative communities (*kvotzoth*). The 134 societies for which detailed data were obtained had 33,436 members, working capital of £334,827 (\$1,629,436) and members' deposits amounting to £711,445 (\$3,462,247).

The report remarks on the high rates of interest (10 to 13 per cent) paid on deposits and charged on loans by the cooperative societies. The manager of the central cooperative bank states that "this interest is out of proportion to the earning capacity of the population—particularly of the farmers—served by the cooperatives," but the report points out that these high rates are a connotation of the still higher, in fact, excessive, rates charged by money lenders.

Activities of Societies

THE agricultural societies are of many types. Through them the farmer makes his purchases, sells his products, insures his cattle, and receives advances. Some are of outstanding importance, as for instance the "Pardess" Society of Orange Growers, which last season handled 40 per cent of the total crop grown by Jewish farmers. This

¹ Great Britain. Colonial Office. Palestine—Report on immigration, land settlement, and development, 1930, by Sir John Hope Simpson. London, 1930, pp. 87-91. (Cmd. 3686.)

society has just opened a packing house with a capacity of 60,000 cases and equipped with the latest grading and packing machinery. One society of grape growers manufactures and sells 90 per cent of the wine produced in Palestine.

The Jewish Federation of Labor has interested itself in the cooperative movement and has launched a society which undertakes the planting and maintenance of agricultural holdings, particularly of citrus groves. The federation has also established a wholesale society for the four consumers' societies which are in operation.

A special department of the federation promotes workers' productive societies. At the end of May, 1930, there were 41 such societies, but their total membership was only 507, or an average of 12 per society. These societies furnish employment for 235 hired workers and apprentices in addition to the members of the society. The transport societies, composed of automobile owners who transfer the ownership of their vehicles to the society, being credited with an equivalent value in stock, are reported to carry on "most of the internal traction of the city of Jerusalem and town of Tel-Aviv and a large proportion of the commercial transport between the two places."

One important class of societies includes the land-purchase associations which undertake the purchase and development of land both in urban and rural places, even for members not yet resident in the country.

Cooperation as a Factor in the Economic Life of the Country

THE report points out that cooperation is a highly important factor in the life of the Jewish population. The societies are generally well managed and "are doing magnificent work and are a valuable asset both to the villages and to the residents in the towns."

The Arabs are as yet unreached by cooperation, but the author urges the importance of the extension of the movement to include them, pointing out that "The need is desperately urgent. The fellah population is so tightly bound in debt that no credit whatever is available to enable that development of agriculture which is so essential for progress."

Although the view has been expressed that the Arab is incapable of cooperating, because of the failure of the Arab society above mentioned, the author is of the opinion that his backwardness as regards cooperation is due either to ignorance of the principles of cooperation or to the constitution of the society, pointing out that "The Arab is ignorant, but he is at the same time highly intelligent and hard working." Instances of joint effort among groups of several Arab farmers offer an indication that the Arab is ready for cooperation. In the opinion of the investigator, "There is nothing but cooperation that will save him from his present depression. He can not hope ever to escape from the burden of debt unless cheaper credit is made available. Only by cooperation can that object be obtained."

The author urges the desirability of the existing cooperative societies extending their services to include the Arabs also, as this would tend to raise the standard of the Arab products and would at the same time benefit the Jewish farmers by removing the competition of inferior produce.

New Agreement Between Cooperative Societies and Trade- Unions in Switzerland

SINCE 1926 the Cooperative Union and Wholesale and the Swiss Federation of Trade-Unions have been parties to an agreement regulating the relations of the two bodies and providing for the arbitration and conciliation of disputes between the cooperative movement and its employees.

Experience showed certain modifications and amendments in the agreement to be necessary and these have recently been adopted. The new text (given in the No. 11, 1930 issue of Cooperative Information, Geneva) pledges the Federation of Trade-Unions to support the cooperative movement and to urge its members to become members of the cooperative societies.

A joint committee of 10 members (five from each organization) is set up whose function is to formulate regulations governing working conditions in cooperative enterprises, to draw up standard agreements for adoption by local cooperative societies and trade-unions, and to settle disputes between cooperative societies and their employees.

In case of failure of a cooperative society to agree with the union of its employees as to any working conditions, the parties must "in good time and before a dispute actually arises" submit the matter to the joint committee, which will act as a court of conciliation. In case of the failure of this body to affect a settlement in controversies over wages or wage rates, the case must be referred to an arbitration committee composed of a representative of each of the parties and a neutral person acting as chairman of the committee. In case the parties agree beforehand to accept the decision of the arbitration committee, the latter's decision is binding.

Notes on Cooperative Developments

SOCCIALIST cooperation in Belgium.—A pamphlet¹ recently issued by the cooperative movement of Belgium undertakes an examination of the progress and position of the cooperative societies of that country which are affiliated with the Socialist Party. The author points out that there are cooperative societies of this class in 700 of the 2,641 communes of the country, but with the aid of their delivery trucks these serve 1,165 communes.

The cooperative societies of Belgium used to be very limited in the lines of goods carried, but the report points out that of recent years the societies have enlarged their activities, have undertaken the sale of new lines of goods, and have opened new shops specializing in certain definite lines, and it is by such measures, the author thinks, that the greatest hope of progress lies. Sales increased 4 per cent from 1928 to 1929, but the number of employees of the movement increased 4 per cent in the same time.

Since 1913 the average purchase per cooperator, at the cooperative store, has increased 30 per cent, averaging, in 1929, 2,740 francs.

¹ Serwy, Victor: *La situation de la coopération socialiste de consommation Belge, 1913, 1928, 1929*. Huy, Imprimerie Coopérative, 1930.

This figure contrasts unfavorably with the averages given for certain other countries, as follows: Switzerland, 5,425 francs; Finland, 5,775 francs; Norway, 9,450 francs; and Sweden, 7,500 francs.

Rural cooperative banks in Finland.—According to the July, 1930, issue of the *International Review of Agriculture*, Part II, Rome, the cooperative rural banks of Finland have been, like the general cooperative movement, the result of "promotion" by a central body. In 1902, before there was a single local cooperative bank in existence, a number of persons formed the Central Bank of the Cooperative Rural Banks, whose capital was provided by a State loan of 4,000,000 Finnish marks (\$100,800) and an annual State subsidy of 20,000 Finnish marks (\$504) for 10 years. "It was realized by the leaders of the newly started Finnish cooperative movement that until such a central institution was set up and supplied with necessary funds it was useless to initiate propaganda for the foundation of local banks among the very poor Finnish farmers, whose deposits would scarcely suffice to furnish their banks with the necessary working capital." Press publicity, lectures, and farmers' meetings did much to acquaint the public with the advantages offered by cooperative credit, and in 1904, one year after the first local bank was founded, there were 69 such banks in operation. Eight years later the number had grown to 400 and these had a membership of some 20,000 and a working capital of 50,000,000 Finnish marks (\$1,260,000). The next 10 years showed a slower development, due to the fact that money was more abundant and the need for credit therefore not so urgent, and to the fact that the movement had incurred the suspicion of the Russian authorities. Some progress was made each year, however, and by 1918 there were 606 banks with 29,000 members and a working capital of about 130,000,000 Finnish marks (\$3,276,000). Since 1920 growth has quickened, and at the end of 1928 there were 1,416 banks with about 135,000 members and working capital of more than 1,000,000,000 marks (\$25,200,000). Of the 533 communes in Finland there were only 56 which did not have at least one cooperative bank.

About one-third of all the farmers in Finland are members of these banks.

The development since 1920 the report attributes to (1) the passage of the land reform law of 1918 which made it possible for leaseholders to become owners on very favorable terms (since the passage of the law more than 100,000 farmers have purchased farms), (2) the development of cooperative dairies, (3) the high discount rates charged by the private banks as compared with the rural banks, and (4) the furnishing by the Government of the sum of 103,000,000 marks (\$2,595,600), to be lent through the cooperative rural banks, on long-term mortgages.

Cooperative housing in Germany in 1929.—No. 13 (113), 1930, of *Cooperative Information*, published by the International Labor Office, Geneva, contains summary data regarding the activities of cooperative housing societies in Germany. According to these figures, the cooperative housing societies constructed 109,121 dwellings in 1929—18,300 more than in 1928. In 1927, dwellings built by these societies formed 27.9 per cent of the dwellings constructed that year. In 1928 they formed 30 per cent, and in 1929, 34.9 per cent of the total.

Cooperative drying rooms for silk cocoons in Italy.—A rather unusual field of cooperative effort is noted in Cooperative Information No. 11, 1930, issued by the International Labor Office. According to this account there are in Italy 120 cooperative societies operating rooms for the drying of silk cocoons. By providing facilities for drying, and so preserving, the cocoons the societies prevent the members having to market their cocoons at once regardless of price. Another of the purposes of these societies is the collective marketing of the product.

The societies are distributed all over Italy, although the Province of Venetia, with 70 societies, leads in number. There are 16 societies in Lombardy, 9 in Calabria, 7 in Tuscany, 6 in Emilia, 4 in Umbria, 3 in the Marches, 2 in Sicily, and 1 each in Piedmont, Campagna, and Tripolitania.

The development of these societies in the last four years is shown in the table below:

AMOUNTS OF COCOONS DELIVERED TO COOPERATIVE DRYING SOCIETIES IN ITALY, 1927-1930

| Year | Number of societies | Cocoons handled by society |
|-----------|---------------------|----------------------------|
| | | <i>Pounds</i> |
| 1927..... | 63 | 4, 409, 200 |
| 1928..... | 76 | 6, 656, 219 |
| 1929..... | 91 | 8, 765, 549 |
| 1930..... | 120 | 16, 086, 702 |

LABOR ORGANIZATIONS

Progress of International Typographical Union

DESPITE the adverse industrial conditions in the country, the average per capita earnings of the members of the International Typographical Union for the fiscal year ended June 20, 1930, were \$2,372.36 as compared with \$2,327.75 in the preceding year—an increase of \$44.61. The 1930 membership was 77,507, an increase of 1,492 over the 1929 record and of 6,562 over the number at the end of the fiscal year 1919-20. The above figures and the following table showing the progress in the financial status of the union from 1920 to the end of the fiscal year 1930 are taken from the report of the president of the organization, published in the supplement to the August, 1930, number of the Typographical Journal:

FINANCIAL STATISTICS OF INTERNATIONAL TYPOGRAPHICAL UNION, 1930,
COMPARED WITH 1920

| Item | Fiscal year ending June 20, 1930 | Increase compared with end of fiscal year 1919-20 |
|--|----------------------------------|---|
| Gross earnings..... | \$183,874,801.00 | \$69,280,543.00 |
| Average earnings per member..... | 2,372.36 | 757.11 |
| Pension assessments..... | 1,379,061.00 | 806,500.43 |
| Pension fund balance..... | 2,577,662.01 | 1,590,802.25 |
| Mortuary fund balance..... | 3,000,310.97 | 2,331,701.67 |
| General fund balance..... | 723,521.46 | 581,883.43 |
| Union Printers' Home fund balance..... | 160,737.98 | 132,030.06 |
| Home endowment fund..... | 68,305.94 | 63,580.64 |
| Investments (municipal, State, and Federal bonds)..... | 5,725,163.76 | 4,765,759.00 |

Trade-Unions in Japan, June, 1930

THE accompanying tables from the December 8, 1930, issue of Industrial and Labor Information, showing the industrial and trade-union distribution of workers in Japan, are based on two semi-annual reports of the Japanese Bureau of Social Affairs.

At the close of June, 1930, the workers in Japanese factories, mines, transport and communications, and in casual and other employments numbered 4,774,047—a decrease of approximately 99,000 as compared with the number reported at the close of December, 1929. The greatest decline was among factory workers, these being approximately 112,000 fewer than were reported at the earlier date. There was also a decrease of 30,000 in the workers in the mines. On the other hand, there was an increase of about 33,000 in the number of workers in transport and communications and of 10,000 in casual and other employments.

Table 1 shows the number of workers, by sex, in factories, mines, and other employments at the close of June, 1930.

TABLE 1.—DISTRIBUTION OF WORKERS IN JAPAN, BY EMPLOYMENT AND SEX, JUNE 30, 1930

| Employment | Males | Females | Total |
|-----------------------------------|-------------|-------------|-------------|
| Factories: | | | |
| Under State management..... | 94, 323 | 24, 163 | 118, 486 |
| Under municipal management..... | 7, 160 | 1, 884 | 9, 044 |
| Under private management..... | 975, 705 | 987, 381 | 1, 963, 086 |
| Total..... | 1, 077, 188 | 1, 013, 428 | 2, 090, 616 |
| Mines..... | 203, 427 | 44, 774 | 248, 201 |
| Transport and communications..... | 465, 785 | 47, 684 | 513, 469 |
| Casual and other employments..... | 1, 493, 333 | 428, 428 | 1, 921, 761 |
| Grand total..... | 3, 239, 733 | 1, 534, 314 | 4, 774, 047 |

In Table 2 the number of trade-unions and their membership are given, by industries, at the close of June, 1930, the increase in the number of unions being 20 and in their membership 11,394 as compared with the figures reported for the end of December, 1929:

TABLE 2.—TRADE-UNION MEMBERSHIP IN JAPAN, BY INDUSTRY GROUPS, JUNE 30, 1930

| Industry group | Number of unions | Membership | | |
|---|------------------|------------|---------|----------|
| | | Males | Females | Total |
| Machine and tools..... | 76 | 100, 220 | 1, 580 | 101, 800 |
| Chemical..... | 69 | 11, 972 | 1, 070 | 13, 042 |
| Textile..... | 34 | 9, 936 | 6, 657 | 16, 593 |
| Food and drink..... | 19 | 3, 735 | 169 | 3, 904 |
| Miscellaneous..... | 103 | 15, 922 | 607 | 16, 529 |
| Mining..... | 16 | 6, 249 | 2 | 6, 251 |
| Gas and electricity..... | 11 | 8, 759 | 78 | 8, 837 |
| Transport: | | | | |
| Land..... | 52 | 24, 672 | 1, 218 | 25, 890 |
| Marine..... | 27 | 109, 120 | ----- | 109, 120 |
| Communications..... | 2 | 2, 321 | ----- | 2, 321 |
| Civil engineering and construction..... | 21 | 2, 963 | ----- | 2, 963 |
| Others..... | 220 | 34, 170 | 959 | 35, 129 |
| Total..... | 650 | 330, 039 | 12, 340 | 342, 379 |

Of the 650 unions reported in the above table, 142 with a membership of 25,378 were craft unions, 287 with a membership of 285,369 were industrial unions, and 221 with a membership of 31,632 were unions of general workers.

The percentage which the organized workers constitute of the total workers in specified industries is shown in Table 3:

TABLE 3.—PERCENTAGE ORGANIZED WORKERS CONSTITUTED OF TOTAL WORKERS AT END OF JUNE, 1930

| Industry | Total workers | Organized workers | |
|-----------------------------------|---------------|-------------------|-------------------|
| | | Number | Per cent of total |
| Factories: | | | |
| Textile..... | 998, 236 | 16, 593 | 1. 7 |
| Machine and tools..... | 250, 657 | 101, 800 | 40. 6 |
| Others..... | 841, 723 | 33, 475 | 3. 9 |
| Total..... | 2, 090, 616 | 151, 868 | 7. 3 |
| Mines..... | 248, 201 | 6, 251 | 2. 5 |
| Transport and communications..... | 513, 469 | 137, 331 | 26. 7 |
| Casual and other employment..... | 1, 921, 761 | 46, 929 | 2. 4 |
| Grand total..... | 4, 774, 047 | 342, 379 | 7. 2 |

The number of organized workers in all industrial groups at the end of June, 1930, was only 0.8 per cent above the number reported for the close of 1929; the percentage of woman workers organized is only 0.8.¹

¹ Communication to the International Labor Office. See also Rodo Jiho, September, 1930.

LABOR TURNOVER

Labor Turnover in American Factories, December, 1930

DECEMBER labor turnover indexes for manufacturing as a whole and for 8 separate manufacturing industries are shown herewith. The indexes for manufacturing as a whole are compiled from reports made to the Bureau of Labor Statistics from representative establishments in over 75 industries employing at this time about 1,250,000 people. In the 8 industries for which separate indexes are presented reports were received from representative plants employing about 25 per cent of the employees in such industries as shown by the Census of Manufactures of 1927. In the automotive industry schedules were received from plants employing nearly 200,000 people. Firms reporting for boots and shoes employed nearly 100,000 people and those reporting for cotton manufacturing employed nearly 125,000 people. The foundry and machine-shop firms reporting had approximately 175,000 people on their pay rolls. The furniture industry is represented by firms employing nearly 40,000 people and the iron and steel industry by firms employing 225,000 people. The reports received from representative sawmills indicated that there were about 65,000 people on their pay rolls, while slaughtering and meat packing reports showed nearly 85,000 people on their pay rolls.

The form of average used in the following tables is the unweighted median of company rates. In determining the median rate the rates for the several establishments reporting are arranged in order from lowest to highest. The rate falling in the center of this arrangement of rates is the median. In other words, it is the rate that has as many company rates above it as below it. The number of employees used as a basis for computing these rates is the average number on the pay rolls during the month of December.

In addition to the quit, discharge, lay-off, total separation, and accession rates, the bureau presents the net turnover rate. The net turnover rate means the rate of replacement. It is the number of jobs that are vacated and filled per 100 employees. In a plant that is increasing its force the net turnover rate is the same as the separation rate because while more people are hired than quit, the number hired above those leaving is due to expansion and can not justly be charged to turnover. On the other hand, in a plant that is reducing its number of employees the net turnover rate is the same as the accession rate, for while more people leave than are hired the excess of separations over accessions is due to reduction of force and therefore can not be logically charged as turnover expense. The net turnover rate for manufacturing as a whole has been the same as the accession rates since November, 1929.

Table 1 shows for all industries the total separation rate subdivided into quit, discharge, and lay-off rates, together with the accession and the net turnover rates, presented on a monthly and an equivalent annual basis.

LABOR TURNOVER

105

TABLE 1.—AVERAGE LABOR TURNOVER RATES IN SELECTED FACTORIES IN 75 INDUSTRIES

A.—Monthly rates

| Month | Separation rates | | | | | | | | Accession rate | | Net turnover rate | |
|----------------|------------------|------|---------|------|-----------|------|--------------------|------|----------------|------|-------------------|------|
| | Quit | | Lay-off | | Discharge | | Total ¹ | | | | | |
| | 1929 | 1930 | 1929 | 1930 | 1929 | 1930 | 1929 | 1930 | 1929 | 1930 | 1929 | 1930 |
| January----- | 2.26 | 1.11 | 0.35 | 1.04 | 0.45 | 0.24 | 3.06 | 2.39 | 4.98 | 2.01 | 3.06 | 2.01 |
| February----- | 2.28 | 1.23 | .36 | 1.06 | .46 | .25 | 3.20 | 2.53 | 4.36 | 2.06 | 3.20 | 2.06 |
| March----- | 3.12 | 1.38 | .48 | 1.03 | .57 | .30 | 4.17 | 2.71 | 5.20 | 1.95 | 4.17 | 1.95 |
| April----- | 3.56 | 1.45 | .45 | 1.16 | .57 | .27 | 4.58 | 2.88 | 5.77 | 2.00 | 4.58 | 2.00 |
| May----- | 3.46 | 1.50 | .48 | 1.18 | .48 | .26 | 4.42 | 2.94 | 5.09 | 2.10 | 4.42 | 2.10 |
| June----- | 3.25 | 1.22 | .44 | 1.12 | .51 | .20 | 4.20 | 2.54 | 5.01 | 1.62 | 4.20 | 1.62 |
| July----- | 3.03 | 1.00 | .42 | 1.31 | .49 | .18 | 3.94 | 2.49 | 5.21 | 1.48 | 3.94 | 1.48 |
| August----- | 3.26 | .95 | .41 | 1.30 | .45 | .13 | 4.12 | 2.38 | 4.61 | 1.25 | 4.12 | 1.25 |
| September----- | 3.14 | 1.13 | .52 | 1.18 | .50 | .16 | 4.16 | 2.47 | 4.91 | 1.82 | 4.16 | 1.82 |
| October----- | 2.42 | .82 | .80 | 1.44 | .40 | .10 | 3.62 | 2.36 | 3.91 | 1.49 | 3.62 | 1.49 |
| November----- | 1.59 | .57 | 1.26 | 1.21 | .30 | .08 | 3.15 | 1.86 | 1.95 | .84 | 1.95 | .84 |
| December----- | 1.08 | .50 | 1.21 | .93 | .20 | .07 | 2.49 | 1.50 | 1.24 | .70 | 1.24 | .70 |
| Average.. | 2.71 | 1.07 | .60 | 1.16 | .45 | .19 | 3.76 | 2.42 | 4.35 | 1.61 | 3.76 | 1.61 |

B.—Equivalent Annual Rates

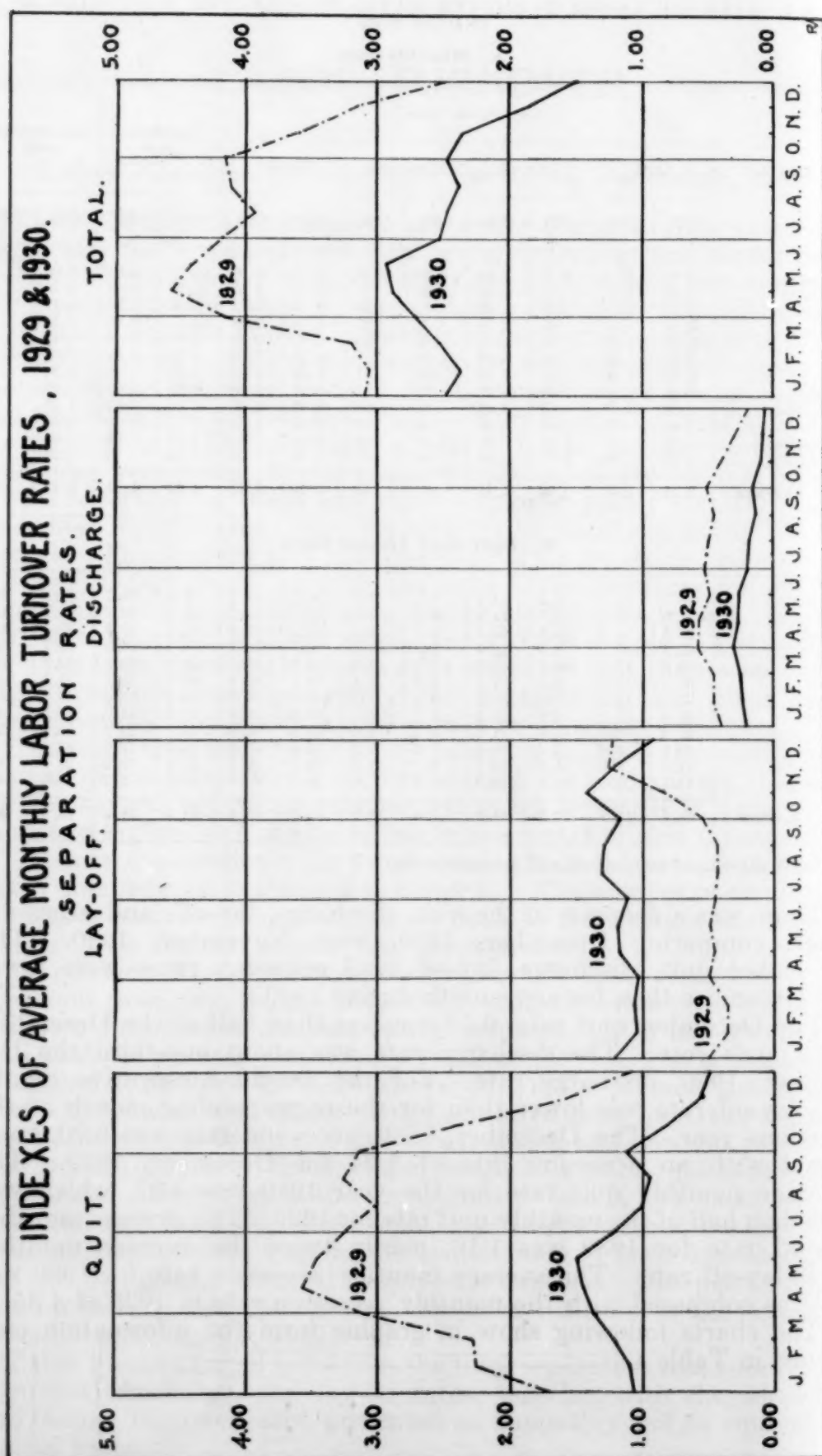
| | | | | | | | | | | | | |
|----------------|------|------|------|------|-----|-----|------|------|------|------|------|------|
| January..... | 26.7 | 13.1 | 4.2 | 12.2 | 5.3 | 2.8 | 36.2 | 28.1 | 58.6 | 23.7 | 36.2 | 23.7 |
| February..... | 31.0 | 16.0 | 4.7 | 13.8 | 6.0 | 3.2 | 41.7 | 33.0 | 56.9 | 26.9 | 41.7 | 26.9 |
| March..... | 36.8 | 16.3 | 5.7 | 12.1 | 6.7 | 3.5 | 49.2 | 31.9 | 61.2 | 23.0 | 49.2 | 23.0 |
| April..... | 43.3 | 17.7 | 5.5 | 14.1 | 6.9 | 3.3 | 55.7 | 35.1 | 70.2 | 24.3 | 55.7 | 24.3 |
| May..... | 40.8 | 17.7 | 5.7 | 13.9 | 5.6 | 3.1 | 52.1 | 34.7 | 59.9 | 24.7 | 52.1 | 24.7 |
| June..... | 39.5 | 14.8 | 5.4 | 13.6 | 6.2 | 2.4 | 51.1 | 30.8 | 60.9 | 19.7 | 51.1 | 19.7 |
| July..... | 35.7 | 11.8 | 5.0 | 15.4 | 5.8 | 2.1 | 46.5 | 29.3 | 61.4 | 17.4 | 46.5 | 17.4 |
| August..... | 38.4 | 11.2 | 4.8 | 15.3 | 5.3 | 1.5 | 48.5 | 28.0 | 54.3 | 14.7 | 48.5 | 14.7 |
| September..... | 38.2 | 13.7 | 6.3 | 14.3 | 6.1 | 2.0 | 50.6 | 30.0 | 59.7 | 22.2 | 50.0 | 22.2 |
| October..... | 28.5 | 9.6 | 9.4 | 17.0 | 4.7 | 1.2 | 42.8 | 27.8 | 46.0 | 17.6 | 42.8 | 17.6 |
| November..... | 19.4 | 6.9 | 15.3 | 14.7 | 3.7 | 1.0 | 38.4 | 22.6 | 23.7 | 10.2 | 23.7 | 10.2 |
| December..... | 12.7 | 5.9 | 14.2 | 10.9 | 2.4 | .8 | 29.3 | 17.6 | 14.6 | 8.2 | 14.6 | 8.2 |
| Average.. | 32.6 | 12.9 | 7.2 | 13.9 | 5.4 | 2.2 | 45.2 | 29.1 | 52.3 | 19.4 | 45.2 | 19.4 |

¹ Arithmetic sum of quit, lay-off, and discharge rates.

There was a decrease in the quit, discharge, lay-off, and accession rates, comparing December, 1930, with November, 1930. The December quit, discharge, lay-off, and accession rates were lower for December than for any month during 1930.

The December quit rate, 0.50 was less than half of the December, 1929, quit rate. The discharge rate was about one-third the December, 1929, discharge rate. For the second consecutive month the lay-off rate was lower than for the corresponding month of the previous year. The December, 1930, accession rate was 0.70, compared with an accession rate of 1.24 for December, 1929. The average monthly quit rate for the year 1930 was 1.07, which was less than half of the monthly quit rate for 1929. The average monthly lay-off rate for 1930 was 1.16, nearly twice the average monthly 1929 lay-off rate. The average monthly accession rate for 1930 was 1.61 as compared with the monthly accession rate in 1929 of 4.35.

The charts following show in graphic form the information contained in Table 1.



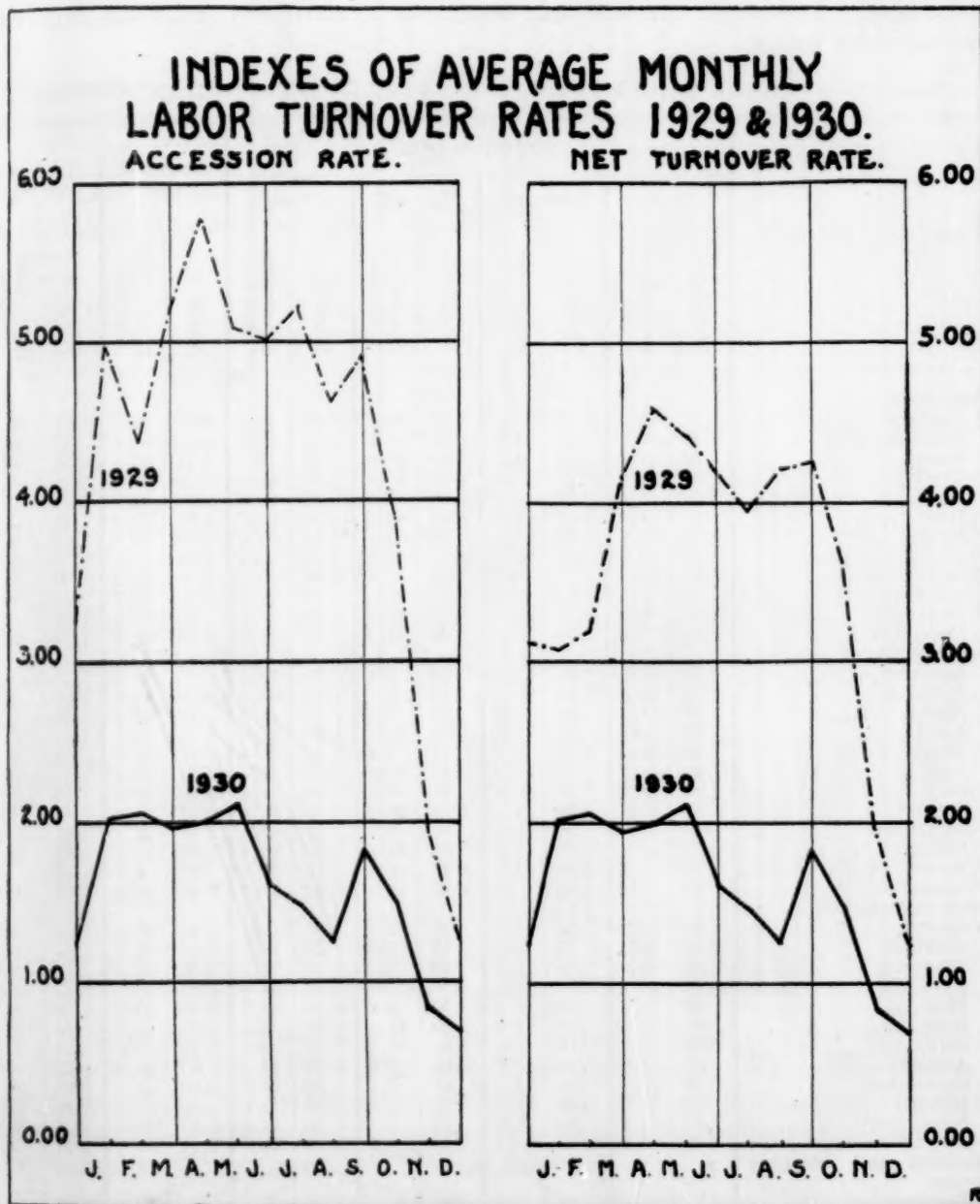


Table 2 shows the quit, discharge, lay-off, accession, and net turnover rates for automobiles, boots and shoes, cotton manufacturing, iron and steel, sawmills, and slaughtering and meat packing, for the months January to December, inclusive; for the foundry and machine-shop industry for the months February to December, inclusive; and for the furniture industry for the months April to December, inclusive, presented both on a monthly and an equivalent annual basis.

TABLE 2.—AVERAGE LABOR TURNOVER RATES IN SPECIFIED INDUSTRIES

| Industry, year, and month, 1930 | Separation rates | | | | | | | | Accession rate | | Net turn- over rate | |
|------------------------------------|------------------|----------------------|-----------|----------------------|---------|----------------------|---------|----------------------|-------------------|----------------------|------------------------|----------------------|
| | Quit | | Discharge | | Lay-off | | Total | | | | | |
| | Monthly | Equivalent annual | Monthly | Equivalent annual | Monthly | Equivalent annual | Monthly | Equivalent annual | Monthly | Equivalent annual | Monthly | Equivalent annual |
| Automobiles: | | | | | | | | | | | | |
| January | 1.27 | 15.0 | 0.59 | 7.0 | 2.22 | 26.2 | 4.08 | 48.2 | 8.20 | 96.9 | 4.08 | 48.2 |
| February | 1.10 | 14.3 | .15 | 1.9 | 1.86 | 24.3 | 3.11 | 40.5 | 3.40 | 44.3 | 3.11 | 40.5 |
| March | 1.56 | 18.4 | .42 | 4.9 | 1.95 | 23.0 | 3.93 | 46.3 | 5.31 | 66.6 | 3.93 | 46.3 |
| April | 1.84 | 22.4 | .33 | 4.0 | 2.70 | 32.8 | 4.87 | 59.2 | 4.06 | 49.4 | 4.06 | 49.4 |
| May | 1.39 | 16.4 | .27 | 3.2 | 3.68 | 43.3 | 5.34 | 62.9 | 2.74 | 32.3 | 2.74 | 32.3 |
| June | 1.17 | 14.2 | .25 | 3.0 | 3.82 | 46.5 | 5.24 | 63.7 | 1.91 | 23.2 | 1.91 | 23.2 |
| July | 1.00 | 11.8 | .10 | 1.2 | 4.53 | 53.4 | 5.63 | 66.4 | 1.39 | 16.4 | 1.39 | 16.4 |
| August | 1.02 | 12.0 | .15 | 1.8 | 3.10 | 36.5 | 4.27 | 50.3 | 2.65 | 31.2 | 2.65 | 31.2 |
| September | 1.14 | 13.9 | .16 | 2.0 | 3.60 | 43.8 | 4.90 | 59.7 | 2.70 | 32.9 | 2.70 | 32.9 |
| October | .70 | 8.2 | .08 | 1.0 | 2.60 | 30.6 | 3.38 | 39.8 | 2.10 | 24.7 | 2.10 | 24.7 |
| November | .51 | 6.2 | .10 | 1.2 | 1.64 | 20.0 | 2.25 | 27.4 | 1.50 | 18.2 | 1.50 | 18.2 |
| December | .50 | 5.9 | .04 | .5 | 1.23 | 14.5 | 1.77 | 20.9 | 1.80 | 21.2 | 1.77 | 20.9 |
| Boots and shoes: | | | | | | | | | | | | |
| January | 1.51 | 17.8 | .46 | 5.4 | .28 | 3.3 | 2.25 | 26.5 | 5.26 | 61.9 | 2.25 | 26.5 |
| February | 1.23 | 16.0 | .39 | 5.1 | .72 | 9.4 | 2.34 | 30.5 | 2.06 | 26.9 | 2.06 | 26.9 |
| March | 1.56 | 18.4 | .36 | 4.2 | .44 | 5.2 | 2.36 | 27.8 | 2.79 | 27.8 | 2.36 | 27.8 |
| April | 1.73 | 21.1 | .32 | 3.9 | 1.01 | 12.3 | 3.06 | 37.8 | 2.11 | 25.7 | 2.11 | 25.7 |
| May | 1.45 | 17.1 | .25 | 2.9 | .71 | 8.4 | 2.41 | 28.4 | 2.16 | 25.4 | 2.16 | 25.4 |
| June | 1.25 | 15.2 | .32 | 3.9 | .87 | 10.6 | 2.44 | 29.7 | 2.17 | 26.4 | 2.17 | 26.4 |
| July | .96 | 11.3 | .28 | 3.3 | .75 | 8.8 | 1.90 | 23.4 | 2.50 | 29.5 | 1.99 | 23.4 |
| August | 1.32 | 15.5 | .36 | 4.2 | 1.33 | 15.7 | 3.01 | 35.4 | 2.53 | 29.8 | 2.53 | 29.8 |
| September | 1.46 | 17.8 | .25 | 3.0 | .81 | 9.8 | 2.52 | 30.6 | 1.98 | 24.1 | 1.98 | 24.1 |
| October | 1.10 | 13.0 | .15 | 1.8 | 1.39 | 16.4 | 2.65 | 16.4 | 1.85 | 21.8 | 1.85 | 21.8 |
| November | .44 | 5.4 | .08 | 1.0 | 1.27 | 15.4 | 1.79 | 21.8 | .81 | 9.9 | .81 | 9.9 |
| December | .59 | 6.9 | .07 | .8 | 1.36 | 16.0 | 2.02 | 23.7 | 1.61 | 19.0 | 1.61 | 19.0 |
| Cotton manufacturing: | | | | | | | | | | | | |
| January | 1.20 | 14.2 | .11 | 1.3 | .29 | 3.4 | 1.60 | 18.9 | 2.40 | 28.3 | 1.60 | 18.9 |
| February | 1.20 | 15.6 | .19 | 2.5 | .14 | 1.8 | 1.53 | 19.9 | 1.62 | 21.1 | 1.53 | 19.9 |
| March | 1.59 | 18.7 | .28 | 3.3 | .25 | 2.9 | 2.12 | 24.9 | 2.53 | 29.8 | 2.12 | 24.9 |
| April | 1.34 | 16.3 | .09 | 1.1 | .14 | 5.4 | 1.87 | 22.8 | 2.34 | 28.5 | 1.87 | 22.8 |
| May | 1.40 | 16.5 | .20 | 2.3 | .59 | 6.9 | 2.19 | 25.7 | 2.25 | 26.5 | 2.19 | 25.7 |
| June | 1.04 | 12.6 | .16 | 1.9 | .90 | 11.0 | 2.10 | 25.5 | 1.75 | 21.3 | 1.75 | 21.3 |
| July | .95 | 11.2 | .11 | 1.3 | .67 | 7.9 | 1.73 | 20.4 | 1.44 | 17.0 | 1.44 | 17.0 |
| August | 1.00 | 11.8 | .14 | 1.6 | .84 | 9.9 | 1.98 | 23.3 | 1.37 | 16.1 | 1.37 | 16.1 |
| September | .95 | 11.5 | .09 | 1.1 | .47 | 5.7 | 1.50 | 18.3 | 2.06 | 25.1 | 1.50 | 18.3 |
| October | .98 | 11.5 | .08 | 1.0 | .50 | 5.9 | 1.56 | 18.4 | 2.32 | 27.3 | 1.56 | 18.4 |
| November | .67 | 8.2 | .07 | .9 | .48 | 5.8 | 1.22 | 14.9 | 1.67 | 20.3 | 1.22 | 14.9 |
| December | .52 | 6.1 | .08 | .9 | .79 | 9.3 | 1.39 | 16.3 | 1.17 | 13.8 | 1.17 | 13.8 |
| Foundries and machine shops: | | | | | | | | | | | | |
| February | .77 | 10.1 | .05 | .7 | .80 | 10.4 | 1.62 | 21.2 | 2.26 | 29.5 | 1.62 | 21.2 |
| March | 1.12 | 13.2 | .16 | 1.9 | 1.21 | 14.2 | 2.49 | 29.3 | 2.33 | 27.4 | 2.33 | 27.4 |
| April | 1.26 | 15.3 | .09 | 1.1 | 1.12 | 13.6 | 2.47 | 30.0 | 2.42 | 29.5 | 2.42 | 29.5 |
| May | 1.23 | 14.5 | .25 | 2.9 | 1.88 | 22.1 | 3.36 | 39.5 | 1.83 | 21.6 | 1.83 | 21.6 |
| June | .76 | 9.3 | .15 | 1.8 | 1.99 | 24.2 | 2.90 | 35.3 | 1.30 | 15.8 | 1.30 | 15.8 |
| July | .54 | 6.4 | .16 | 1.9 | 1.79 | 21.1 | 2.49 | 29.4 | 1.23 | 14.5 | 1.23 | 14.5 |
| August | .53 | 6.2 | .13 | 1.5 | 2.00 | 23.6 | 2.66 | 31.3 | 1.04 | 12.2 | 1.04 | 12.2 |
| September | .49 | 6.0 | .08 | 1.0 | 2.00 | 24.3 | 2.57 | 31.3 | 1.00 | 12.2 | 1.00 | 12.2 |
| October | .42 | 5.0 | .09 | 1.1 | 1.85 | 21.8 | 2.37 | 27.9 | 1.21 | 14.2 | 1.21 | 14.2 |
| November | .29 | 3.5 | .07 | .9 | 1.69 | 20.5 | 2.05 | 24.9 | .48 | 5.8 | .48 | 5.8 |
| December | .18 | 2.1 | .03 | .4 | 1.53 | 18.0 | 1.74 | 20.5 | .72 | 8.5 | .72 | 8.5 |
| Furniture: | | | | | | | | | | | | |
| April | 1.22 | 14.8 | .10 | 1.2 | 1.29 | 15.7 | 2.61 | 31.7 | 1.33 | 16.2 | 1.33 | 16.2 |
| May | .76 | 8.9 | .23 | 2.7 | 2.01 | 23.7 | 3.00 | 35.3 | 1.15 | 13.5 | 1.15 | 13.5 |
| June | .39 | 4.7 | .13 | 1.6 | 2.38 | 28.9 | 2.90 | 35.2 | 1.07 | 13.0 | 1.07 | 13.0 |
| July | .42 | 4.9 | .20 | 2.4 | 1.32 | 15.5 | 1.94 | 22.8 | 1.59 | 18.7 | 1.59 | 18.7 |
| August | .62 | 7.3 | .22 | 2.6 | .76 | 8.9 | 1.60 | 18.8 | 2.01 | 23.7 | 1.60 | 18.8 |
| September | .35 | 4.2 | .19 | 2.3 | .70 | 8.5 | 1.24 | 15.0 | 2.70 | 32.9 | 1.24 | 15.0 |

TABLE 2.—AVERAGE LABOR TURNOVER RATES IN SPECIFIED INDUSTRIES—Contd.

| Industry, year, and month, 1930 | Separation rates | | | | | | | | Accession rate | | Net turn- over rate | |
|------------------------------------|------------------|----------------------|-----------|----------------------|---------|----------------------|---------|----------------------|-------------------|----------------------|------------------------|----------------------|
| | Quit | | Discharge | | Lay-off | | Total | | | | | |
| | Monthly | Equivalent annual | Monthly | Equivalent annual | Monthly | Equivalent annual | Monthly | Equivalent annual | Monthly | Equivalent annual | Monthly | Equivalent annual |
| Furniture—Continued. | | | | | | | | | | | | |
| October | 0.43 | 5.1 | 0.10 | 1.2 | 0.88 | 10.4 | 1.42 | 16.7 | 1.66 | 19.6 | 1.42 | 16.7 |
| November | .29 | 3.5 | .09 | 1.1 | 2.18 | 26.5 | 2.56 | 31.1 | .67 | 8.1 | .67 | 8.1 |
| December | .19 | 2.3 | .07 | .8 | 2.91 | 34.3 | 3.17 | 37.4 | .56 | 6.6 | .56 | 6.6 |
| Iron and steel: | | | | | | | | | | | | |
| January | 1.37 | 16.1 | .23 | 2.8 | 1.63 | 19.2 | 3.23 | 38.1 | 3.87 | 45.6 | 3.23 | 38.1 |
| February | 1.07 | 14.0 | .18 | 2.4 | .74 | 9.7 | 1.99 | 26.1 | 2.97 | 38.7 | 1.99 | 26.1 |
| March | 1.35 | 15.9 | .20 | 2.3 | .45 | 5.3 | 2.00 | 23.5 | 2.54 | 29.9 | 2.00 | 23.5 |
| April | 1.51 | 18.4 | .19 | 2.3 | .30 | 3.7 | 2.00 | 24.4 | 2.43 | 29.6 | 2.00 | 24.4 |
| May | 1.40 | 16.5 | .17 | 2.0 | .87 | 10.3 | 2.44 | 28.8 | 2.06 | 24.3 | 2.06 | 24.3 |
| June | 1.36 | 16.6 | .23 | 2.8 | .64 | 7.8 | 2.23 | 27.2 | 2.38 | 28.9 | 2.23 | 27.2 |
| July | .90 | 10.6 | .15 | 1.8 | .73 | 8.6 | 1.78 | 21.0 | 1.37 | 16.1 | 1.37 | 16.1 |
| August | .95 | 11.2 | .11 | 1.3 | 1.13 | 13.3 | 2.19 | 25.8 | 1.15 | 13.6 | 1.15 | 13.6 |
| September | 1.07 | 13.0 | .09 | 1.1 | 1.00 | 12.2 | 2.16 | 26.3 | 1.32 | 16.1 | 1.32 | 16.1 |
| October | .80 | 9.4 | .08 | .9 | 1.49 | 17.6 | 2.37 | 27.9 | .80 | 9.4 | .80 | 9.4 |
| November | .74 | 9.0 | .05 | .6 | .96 | 11.7 | 1.75 | 21.3 | .56 | 6.8 | .56 | 6.8 |
| December | .54 | 6.4 | .05 | .6 | .79 | 9.3 | 1.38 | 16.3 | .57 | 6.7 | .57 | 6.7 |
| Sawmills: | | | | | | | | | | | | |
| January | 1.57 | 18.5 | .44 | 5.2 | 1.77 | 20.9 | 3.78 | 44.6 | 2.54 | 29.9 | 2.54 | 29.9 |
| February | 1.77 | 23.1 | .18 | 2.4 | 1.81 | 23.6 | 3.76 | 49.1 | 4.38 | 57.1 | 3.76 | 49.1 |
| March | 1.90 | 22.4 | .11 | 1.3 | 1.10 | 13.0 | 3.11 | 36.7 | 4.86 | 57.2 | 3.11 | 36.7 |
| April | 1.62 | 19.7 | .19 | 2.3 | 1.21 | 14.7 | 3.02 | 36.7 | 4.46 | 54.3 | 3.02 | 36.7 |
| May | 1.33 | 15.7 | .11 | 1.3 | 1.46 | 17.2 | 2.90 | 34.2 | 3.48 | 41.0 | 2.90 | 34.2 |
| June | 1.10 | 13.4 | .23 | 2.8 | 2.16 | 26.3 | 3.49 | 42.5 | 2.78 | 33.8 | 2.78 | 33.8 |
| July | .82 | 9.6 | .24 | 2.8 | 2.28 | 26.9 | 3.34 | 39.3 | 3.65 | 43.0 | 3.34 | 39.3 |
| August | .67 | 7.9 | .26 | 3.1 | 2.34 | 27.6 | 3.27 | 38.6 | 2.04 | 24.1 | 2.04 | 24.1 |
| September | 1.52 | 18.5 | .16 | 2.0 | 2.67 | 32.5 | 4.35 | 53.0 | 3.07 | 37.4 | 3.07 | 37.4 |
| October | .87 | 10.3 | .20 | 2.3 | 2.09 | 24.6 | 3.16 | 37.2 | 3.32 | 39.1 | 3.16 | 37.2 |
| November | .25 | 3.0 | .16 | 1.9 | 3.15 | 38.3 | 3.55 | 43.2 | 1.27 | 15.4 | 1.27 | 15.4 |
| December | .31 | 3.7 | .08 | .9 | 2.23 | 26.3 | 2.62 | 30.9 | .71 | 8.4 | .71 | 8.4 |
| Slaughtering and meat packing: | | | | | | | | | | | | |
| January | 1.60 | 18.9 | .51 | 6.0 | 1.52 | 17.9 | 3.63 | 42.8 | 4.08 | 48.1 | 3.63 | 42.8 |
| February | 1.54 | 20.1 | .45 | 5.9 | 4.33 | 56.5 | 6.32 | 82.5 | 2.92 | 38.2 | 2.92 | 38.1 |
| March | 1.89 | 22.3 | .48 | 5.6 | 2.62 | 30.9 | 4.99 | 58.8 | 2.84 | 33.5 | 2.84 | 33.5 |
| April | 1.90 | 23.1 | .46 | 5.6 | 1.91 | 23.3 | 4.27 | 52.0 | 4.28 | 52.1 | 4.27 | 52.0 |
| May | 2.38 | 28.0 | .54 | 6.4 | 1.52 | 17.9 | 4.44 | 52.3 | 6.10 | 71.9 | 4.44 | 52.3 |
| June | 2.12 | 25.8 | .44 | 5.3 | 1.13 | 13.7 | 3.69 | 44.8 | 6.12 | 74.4 | 3.69 | 44.8 |
| July | 1.52 | 17.9 | .48 | 5.7 | 2.90 | 34.1 | 4.90 | 57.7 | 4.80 | 56.5 | 4.80 | 56.5 |
| August | 1.32 | 15.6 | .36 | 4.2 | 1.35 | 15.9 | 3.03 | 35.7 | 3.66 | 43.1 | 3.03 | 35.7 |
| September | 1.85 | 22.5 | .35 | 4.3 | 1.41 | 17.2 | 3.61 | 44.0 | 5.38 | 65.5 | 3.61 | 44.0 |
| October | .97 | 11.4 | .37 | 4.4 | 1.57 | 18.5 | 2.91 | 34.3 | 4.47 | 52.7 | 2.91 | 34.3 |
| November | .93 | 11.3 | .39 | 4.7 | 1.44 | 17.5 | 2.75 | 33.5 | 4.83 | 58.7 | 2.75 | 33.5 |
| December | .62 | 7.3 | .30 | 3.5 | 1.44 | 17.0 | 2.36 | 27.8 | 3.01 | 35.5 | 2.36 | 27.8 |

The total separation rate for the automotive industry for the month of December was 1.77. The accession rate was 1.80. The December accession rate was higher than the November accession rate. The December quit, discharge, and lay-off rates were all lower than the corresponding rates for November.

In the boot and shoe industry the December total separation rate was 2.02, while the accession rate was 1.61. The quit, lay-off, and accession rates were higher than like rates for November, while the discharge rate was slightly lower.

The cotton manufacturing industry had a total separation rate of 1.39 and an accession rate of 1.17. The quit rate and the accession rate were lower during December than during November, while the discharge rate and the lay-off rate were higher.

The accession rate for the foundry and machine-shop industry was 0.72, while the total separation rate was 1.74. The quit, discharge,

and lay-off rates were all lower for December than for November. The accession rate, however, was much higher for December than for November.

The total separation rate for the furniture industry was 3.17. The accession rate was only 0.56. The lay-off rate was higher during December than during November. The quit, discharge, and accession rates were all lower for December than for November.

The iron and steel industry during December had an accession rate of 0.57 and a total separation rate of 1.38. The accession rate for this industry was higher during December than during November. The quit and lay-off rates, however, were lower during December than during November.

The December discharge rate was the same as the November discharge rate.

The December total separation rate for sawmills was 2.62. The accession rate was 0.71. Sawmills showed a higher quit rate during December than during November, but showed lower discharge, lay-off, and accession rates, comparing December with November.

The slaughtering and meat-packing industry had an accession rate of 3.01 as compared with the total separation rate of 2.36. The December quit, discharge, and accession rates were all lower for this industry than the corresponding rates for November. The lay-off rates for December and November were identical.

Boots and shoes, cotton manufacturing, iron and steel, and slaughtering and meat packing had higher quit rates than the all-industry quit rate. Foundries and machine shops, furniture, and sawmills had lower quit rates than the all-industry quit rate. The automobile quit rate was identical with the all-manufacturing quit rate.

The discharge rates for cotton manufacturing, sawmills, and slaughtering and meat packing were higher than the all-industry discharge rate. The discharge rates for automobiles, foundries and machine shops, and iron and steel were lower than the all-industry discharge rate. Boots and shoes and furniture had the same discharge rate as that shown by all industries.

A higher lay-off rate than that shown by manufacturing as a whole was indicated by the following industries: Automobiles, boots and shoes, foundries and machine shops, furniture, sawmills, and slaughtering and meat packing. Cotton manufacturing and iron and steel had lower lay-off rates than manufacturing as a whole.

The automobile, boot and shoe, cotton manufacturing, foundry and machine shop, sawmill, and slaughtering and meat packing accession rates were higher than the all-manufacturing accession rate. Lower accession rates than the rate shown by all manufacturing industries were indicated in the furniture and iron and steel industries.

The highest quit rate, 0.62, was shown by the slaughtering and meat-packing industry, the lowest, 0.18, by foundries and machine shops. Slaughtering and meat packing with 0.30 also had the highest discharge rate. The lowest discharge rate, 0.03, was shown by the foundry and machine-shop industry. The highest lay-off rate for any industry was 2.91 for furniture. The lowest lay-off rate for December was 0.79. This lay-off rate was shown for both cotton manufacturing and iron and steel. Slaughtering and meat packing had the highest accession rate, 3.01. The furniture industry had the lowest accession rate, 0.56.

Stri

D

pres

ing

T

1922

the

1923

begi

and

the

lost

disp

norm

TABL

MO

WC

1927,

1928,

1929,

Janu

Febr

Marc

April

May

Jun

July

Augu

Sept

Octo

Nov

Dec

Janu

Febr

Marc

April

May

June

July

Augu

Sept

Octo

Nov

Dec

1 P

INDUSTRIAL DISPUTES

Strikes and Lockouts in the United States in December, 1930

DATA regarding industrial disputes in the United States for December, 1930, with comparable data for preceding months are presented below. Disputes involving fewer than six workers and lasting less than one day have been omitted.

Table 1 shows the number of disputes beginning in 1927, 1928, and 1929, number of workers involved and man-days lost for these years, the number of industrial disputes for each of the months January, 1928, to December, 1930, inclusive, the number of disputes which began in these months, the number in effect at the end of each month, and the number of workers involved. It also shows in the last column, the economic loss (in man-days) involved. The number of workdays lost is computed by multiplying the number of workers affected in each dispute by the length of the dispute measured in working-days as normally worked by the industry or trade in question.

TABLE 1.—INDUSTRIAL DISPUTES BEGINNING IN AND IN EFFECT AT END OF EACH MONTH, JANUARY, 1928, TO DECEMBER, 1930, AND TOTAL NUMBER OF DISPUTES, WORKERS, AND MAN-DAYS LOST IN THE YEARS 1927, 1928, AND 1929

| Month and year | Number of disputes | | Number of workers involved in disputes | | Number of man-days lost during month or year |
|-----------------------------|----------------------------|---------------------------|--|---------------------------|--|
| | Beginning in month or year | In effect at end of month | Beginning in month or year | In effect at end of month | |
| 1927, total..... | 734 | ----- | 349,434 | ----- | 37,799,394 |
| 1928, total..... | 629 | ----- | 357,145 | ----- | 31,556,947 |
| 1929, total..... | 903 | ----- | 230,463 | ----- | 9,975,213 |
| <i>1929</i> | | | | | |
| January..... | 48 | 36 | 14,783 | 39,569 | 951,914 |
| February..... | 54 | 35 | 22,858 | 40,306 | 926,679 |
| March..... | 77 | 37 | 14,031 | 40,516 | 1,074,468 |
| April..... | 117 | 53 | 32,989 | 52,445 | 1,429,437 |
| May..... | 115 | 73 | 13,668 | 64,853 | 1,727,694 |
| June..... | 73 | 57 | 19,989 | 58,152 | 1,627,565 |
| July..... | 80 | 53 | 36,152 | 15,589 | 1,062,428 |
| August..... | 78 | 43 | 25,616 | 6,714 | 358,148 |
| September..... | 98 | 49 | 20,233 | 8,132 | 244,864 |
| October..... | 69 | 31 | 16,315 | 6,135 | 272,018 |
| November..... | 61 | 32 | 10,443 | 6,067 | 204,457 |
| December..... | 33 | 21 | 3,386 | 2,343 | 95,541 |
| <i>1930</i> | | | | | |
| January..... | 42 | 21 | 8,879 | 5,316 | 182,202 |
| February..... | 44 | 33 | 37,301 | 6,562 | 436,788 |
| March..... | 49 | 34 | 15,017 | 5,847 | 289,470 |
| April..... | 60 | 41 | 5,814 | 5,711 | 180,445 |
| May..... | 64 | 30 | 9,281 | 4,640 | 192,201 |
| June..... | 54 | 34 | 13,791 | 8,499 | 150,627 |
| July..... | 76 | 31 | 14,219 | 5,039 | 148,982 |
| August..... | 51 | 32 | 15,902 | 7,161 | 144,530 |
| September..... | 69 | 41 | 15,946 | 13,409 | 202,874 |
| October..... | 46 | 34 | 10,842 | 15,649 | 336,250 |
| November ¹ | 41 | 26 | 5,101 | 8,145 | 215,141 |
| December ¹ | 22 | 11 | 4,132 | 6,361 | 279,119 |

¹ Preliminary figures subject to change.

Occurrence of Industrial Disputes, by Industries

TABLE 2 gives, by industry, the number of strikes beginning in October, November, and December, 1930, and the number of workers directly involved.

TABLE 2.—INDUSTRIAL DISPUTES BEGINNING IN OCTOBER, NOVEMBER, AND DECEMBER, 1930

| Industry | Number of disputes beginning in— | | | Number of workers involved in disputes beginning in— | | |
|---|----------------------------------|----------|----------|--|----------|----------|
| | October | November | December | October | November | December |
| Bakers..... | | | 1 | | | 45 |
| Building trades..... | 13 | 8 | 4 | 693 | 839 | 260 |
| Chauffeurs and teamsters..... | 2 | 1 | 3 | 35 | 120 | 685 |
| Clothing..... | 6 | 20 | 2 | 227 | 791 | 650 |
| Farm labor..... | 1 | | | 100 | | |
| Food workers..... | | 1 | | | 290 | |
| Hotel and restaurant workers..... | | | 1 | | | 30 |
| Leather..... | 1 | | | 27 | | |
| Light, heat, power, and water..... | 2 | | | 300 | | |
| Longshoremen, freight handlers..... | 1 | | | 3,000 | | |
| Metal trades..... | 3 | | 2 | 57 | | 610 |
| Miners..... | 13 | 2 | 2 | 6,283 | 765 | 155 |
| Motion-picture operators, actors, and theatrical employees..... | 1 | 2 | 2 | 25 | 40 | 423 |
| Stone..... | | 1 | | | 11 | |
| Municipal workers..... | | | 1 | | | 50 |
| Textiles..... | 3 | 6 | 3 | 95 | 2,245 | 284 |
| Other occupations..... | | | 1 | | | 940 |
| Total..... | 46 | 41 | 22 | 10,842 | 5,101 | 4,132 |

Size and Duration of Industrial Disputes, by Industries

TABLE 3 gives the number of industrial disputes beginning in December, 1930, classified by number of workers and by industries.

TABLE 3.—NUMBER OF INDUSTRIAL DISPUTES BEGINNING IN DECEMBER, 1930 CLASSIFIED BY NUMBER OF WORKERS AND BY INDUSTRIES

| Industry | Number of disputes beginning in December, 1930, involving— | | | |
|---|--|--------------------------|---------------------------|-----------------------------|
| | 6 and under 20 workers | 20 and under 100 workers | 100 and under 500 workers | 500 and under 1,000 workers |
| Bakers..... | | 1 | | |
| Building trades..... | | 3 | 1 | |
| Chauffeurs and teamsters..... | | | 3 | |
| Clothing..... | | | 2 | |
| Hotel and restaurant workers..... | | 1 | | |
| Metal trades..... | 1 | | | 1 |
| Miners..... | | 1 | 1 | |
| Motion-picture operators, actors, and theatrical employees..... | | 1 | 1 | |
| Municipal workers..... | | 1 | | |
| Textiles..... | 1 | 1 | 1 | |
| Other occupations..... | | | | 1 |
| Total..... | 2 | 9 | 9 | 2 |

In Table 4 are shown the number of industrial disputes ending in December, 1930, by industries and classified duration.

TABLE 4.—NUMBER OF INDUSTRIAL DISPUTES ENDING IN DECEMBER, 1930, BY INDUSTRIES AND CLASSIFIED DURATION

| Industry | Classified duration of strikes ending in December | | | | | |
|---|---|-------------------------------------|--------------------------------|---------------------------------|---------------------------------|---------------------------------|
| | One-half month or less | Over one-half and less than 1 month | 1 month and less than 2 months | 2 months and less than 3 months | 3 months and less than 4 months | 5 months and less than 6 months |
| Bakers..... | 1 | | | | | |
| Building trades..... | 3 | 2 | 2 | | | |
| Chauffeurs and teamsters..... | 2 | 1 | | | | |
| Clothing..... | 2 | 4 | 3 | | | |
| Hotel and restaurant workers..... | | | 1 | | | |
| Metal trades..... | 1 | | | | | |
| Miners..... | | | | 4 | 4 | 1 |
| Motion-picture operators, actors, and theatrical employees..... | 1 | 2 | | | | |
| Textiles..... | 2 | | | | | |
| Other occupations..... | 1 | | | | | |
| Total..... | 13 | 9 | 6 | 4 | 4 | 1 |

Principal Strikes and Lockouts Beginning in December, 1930

Pencil workers, New York City.—An unsuccessful strike of 940 employees of the Eagle Pencil Co. against a 10 per cent wage reduction began on December 1 and ended on December 10.

Aeronautical workers, New Jersey.—About 600 employees of the Wright Aeronautical Corporation at Paterson are reported to have struck on December 12 against a new bonus system and "incentive plan" introduced by the company. No report of the ending of this strike has been received, but according to press reports about 300 strikers had returned by January 14.

Shirt makers, Connecticut.—An unsuccessful strike of 425 employees of Lesnow Bros. (Inc.), shirt manufacturers, New Haven, against a 15 per cent wage reduction, was in effect from December 15 to December 29.

Principal Strikes and Lockouts Continuing Into December, 1930

Silk textile workers, Pennsylvania.—It is understood from press reports that the strike which began on November 14 at Hazleton, affecting the Duplan Silk Corporation, is still in effect, although the prospects are said to be favorable for an early settlement. Later and more reliable information gives the number of workers directly involved in this strike as 400.

Textile workers, Virginia.—The strike which began on September 29, involving directly or indirectly some 4,000 employees of the Riverside & Dan River Cotton Mills (Inc.), is still in progress, according to the union; but a check of the company's pay roll disclosed, it is said, 3,457 persons employed in both divisions of the mill, as of January 14. This company reports that the strike itself has caused the company

but little inconvenience and that there has been no trouble to start up machinery as fast as the economic conditions have justified. The strike appears to have been unsuccessful.

Conciliation Work of the Department of Labor in December, 1930

BY HUGH L. KERWIN, DIRECTOR OF CONCILIATION

THE Secretary of Labor, through the Conciliation Service, exercised his good offices in connection with 39 labor disputes during December, 1930. These disputes affected a known total of 9,060 employees. The table following shows the name and location of the establishment or industry in which the dispute occurred, the nature of the dispute (whether strike or lockout or controversy not having reached the strike or lockout stage), the craft or trade concerned, the cause of the dispute, its present status, the terms of settlement, the date of beginning and ending, and the number of workers directly and indirectly involved.

On January 1, 1931, there were 35 strikes before the department for settlement and in addition 19 controversies which had not reached the strike stage. The total number of cases pending was 54.

INDUSTRIAL DISPUTES

115

| Company or industry and location | Nature of controversy | Craftsmen concerned | Cause of dispute | Present status and terms of settlement | Duration | | Workmen involved | |
|---|-----------------------|---|--|--|--------------|-------------|------------------|------------|
| | | | | | Beginning | Ending | Directly | Indirectly |
| Adelphia Worsted Mills, Philadelphia, Pa. | Strike | Weavers, warpers, loom fixers, and beamers. | Wage cut of 10 per cent. | Adjusted. Beavers and loom fixers accepted cut; weavers and warpers received rate existing before cut. | 1930 Nov. 15 | 1930 Dec. 1 | 120 | 30 |
| Fenichels Pants Factory, New Haven, Conn. | do. | Pants makers. | Wage cut of 2 per cent. | Unclassified. Accepted cut and returned before arrival of commissioner. | Nov. 1 | Nov. 15 | 80 | --- |
| Olean Blower Corp., Olean, N. Y. | Controversy. | Employees. | Company refused to operate union shop. | Adjusted. Company signed agreement recognizing the union both in shop and construction work. | Nov. 24 | Dec. 31 | 14 | 6 |
| Coleman Hardware Co., Morris, Ill. | Lockout. | Molders. | Open shop declared; alleged violation of agreement. | Adjusted. Agreement signed. No discrimination. | Oct. 17 | Dec. 7 | 34 | 50 |
| Stadium building, Cleveland, Ohio. | Strike. | Operating engineers. | Engineers demanded dismissal of nonunion man on night boiler firing. | Adjusted. Agreed to arbitrate disputed questions. | Dec. 1 | Dec. 8 | 5 | 50 |
| Central States Theater Corp., in 11 cities in Iowa. | do. | Musicians and operators. | Companies desired 1 operator instead of 2 and reduction in number of musicians. | Adjusted. Negotiations to continue; all operators returned; new contract being formed with musicians. | Dec. 3 | Dec. 15 | 50 | 300 |
| Finkelstein Bros., Philadelphia, Pa. | do. | Shoe workers. | Working conditions. | Unable to adjust. Conciliation impracticable. | Nov. 10 | Dec. 31 | 75 | --- |
| Model Shoe Co., Philadelphia, Pa. | do. | do. | do. | do. | Nov. 13 | Nov. 25 | 30 | --- |
| Standard Shoe Co., Philadelphia, Pa. | do. | do. | do. | do. | do. | Dec. 31 | 65 | --- |
| Eagle Pencil Co., New York City. | do. | Pencil makers. | Wage cut of 10 per cent. | Adjusted; cut accepted. | Dec. 1 | Dec. 10 | 940 | --- |
| Rialto Theater, Dayton, Ohio. | do. | Motion-picture operators. | Wage cut—\$70 to \$35 per week. | Pending. | Oct. 1 | --- | 2 | --- |
| Arundel Corp., Columbia, Pa. | do. | Employees. | Asked wage increase, 8-hour day, time and a half for overtime, double time for Sunday. | do. | Dec. 6 | --- | 75 | 2,300 |
| Wuichet Fertilizer, Dayton, Ohio. | Controversy. | do. | Proposed 10 per cent wage cut. | do. | Dec. 3 | --- | (1) | --- |
| Building, Wichita, Kans. | do. | Building. | Failure to pay prevailing wage. | do. | Nov. 29 | --- | (1) | --- |
| Building, Erie, Pa. | do. | Carpenters versus ironworkers. | Jurisdiction of metal trim work. | Adjusted. Metal trim work awarded to carpenters. | Dec. 1 | Dec. 10 | 15 | --- |
| Master Silk Hosiery Mills, Philadelphia, Pa. | Strike. | Hosiery workers. | Asked union wages, recognition, and better hours. | Pending. | Nov. 9 | --- | 50 | 100 |

¹ Not reported.

LABOR DISPUTES HANDLED DURING THE MONTH OF DECEMBER, 1930—Continued

| Company or industry and location | Nature of controversy | Craftsmen concerned | Cause of dispute | Present status and terms of settlement | Duration | | Workmen involved | |
|---|-----------------------|---------------------|---|---|-----------|---------|------------------|------------|
| | | | | | Beginning | Ending | Directly | Indirectly |
| Building, Hartford, Conn. | Strike | Steam fitters | Contractors refused conference on change in existing agreement. | Adjusted. Returned on same conditions as before strike. | Dec. 1 | Dec. 9 | 75 | --- |
| Lawson Memorial Building, Chicago, Ill. | Threatened strike. | Building crafts. | Nonunion painters, glaziers, and roofers. | Pending. | Dec. 12 | --- | 30 | 400 |
| Plotzky Bros., New York City. | Controversy | Clothing workers | Working conditions. | Adjusted. Satisfactory agreement concluded. | Dec. 1 | Dec. 10 | 70 | --- |
| Wright Aeronautical Corp., Paterson, N. J. | Strike | Employees | Opposition of machinists and metal polishers to group and bonus systems. | Pending. | Dec. 12 | --- | 600 | --- |
| Lesnow Bros. (Inc.), New Haven, Conn. | do | Shirt makers | Wage cut of 15 per cent on piece-work. | Adjusted. Workers accepted 15 per cent reduction. | Dec. 15 | Dec. 29 | 425 | --- |
| Jewish master bakers, Cleveland, Ohio. | do | Bakers | Working conditions, master bakers declare strike is in violation of contract. | Pending. | do | --- | (1) | --- |
| Schletter & Zander Co., Philadelphia, Pa. | Lockout | Hosiery | Open-shop dispute. | do | Dec. 18 | --- | 240 | --- |
| Pittsburgh-Des Moines Construction Co., Pittsburgh, Pa. | Controversy | Building | Use of nonresident workers. | Adjusted. Arrangement for local men satisfactory to bricklayers. | Dec. 8 | Dec. 13 | 150 | 50 |
| Shelbourne Millinery Co., New York City. | Strike | Millinery workers | Alleged violation of agreement. | Adjusted. Satisfactory agreement; all returned to work. | Nov. 28 | Dec. 18 | 25 | --- |
| Bernard Shoe Co., Brooklyn, N. Y. | Lockout | Shoe workers | Employees were requested to furnish capital to continue business. | Adjusted. Partnership dissolved and reorganized; employees returned without change in conditions. | Nov. 11 | Dec. 17 | 68 | 5 |
| Jewish theaters, New York City | do | Theater workers | Theaters closed when employees refused to accept cut in wages. | Adjusted. All accept wage cuts except musicians with whom negotiations are continued. | Dec. 1 | Dec. 22 | 500 | 125 |
| Park Shop Garage Owners Association, Brooklyn, N. Y. | Strike | Garage workers | Car washers and polishers asked pay for 6-day week at same rate as for 7-day. | Adjusted. Agreement reached with 57 firms; demands granted. | Dec. 3 | Dec. 18 | 200 | 100 |
| Arbman Bros. & Blair, Chicago, Ill. | Controversy | Clothing workers | Company closed shop on account of overhead expenses. | Pending. | Nov. 15 | --- | 38 | --- |
| Industrial School for the Blind, Indianapolis, Ind. | do | Building crafts | Objection to nonunion men. | Adjusted. Agreed to use union men on this class of work in the future. | Dec. 12 | Dec. 20 | 3 | 1 |
| Indian School for Boys, Plainfield, Ind. | do | Ironworkers | Nonunion men employed on boiler plant. | Adjusted. Union men to finish job. | Dec. 17 | Dec. 29 | 15 | 3 |

[370]

Schenker, Michel & Weinstock, Ill. Lockout. Clothing workers. Violation of agreement; asked piecework system. Adjusted. New agreement concluded; 4 principal craftsmen to work on piece system.

Dec. 2 Dec. 16 Dec. 225 210

| Schenker, Michel & Weinstock, Chicago, Ill. | Lockout..... | Clothing workers..... | Violation of agreement; asked piecework system. | Adjusted. New agreement con- cluded; 4 principal craftsmen to work on piece system. Pending..... | Dec. 2 Dec. 26 | Dec. 16 | 225 | 210 |
|---|--------------|-----------------------------|---|---|-------------------|----------------|-------|-------|
| Hebrew master bakers, Chicago, Ill. | do..... | Bakers..... | Dispute relative to unionization of nonunion bakers. | Pending..... | Dec. 26 | | 200 | |
| Warner Bros. Theater, Erie, Pa.; Olean Blower Corp., contractor. | Strike..... | Sheet-metal workers. | Company employs union labor on construction; shop em- ployees demanded unioniza- tion. | Adjusted. Agreement concluded providing shop unionization. | Dec. 23 | Dec. 30 | 10 | 7 |
| Apollo, Ideal, and Columbia Theaters, Dayton, Ohio. | do..... | Operators..... | Proposed wage cut—\$70 to \$35 per week. | Pending..... | Dec. 1 | | 12 | |
| Kings County Garage, Brooklyn, N. Y. | do..... | Washers and pol- ishers. | Asked recognition, 12-hour day, and improved working condi- tions. | Adjusted. All demands conceded..... | Dec. 16 | Dec. 17 | 135 | 25 |
| Adair Coal Co., Kirksville, Mo..... | do..... | Miners..... | Wages cut; 1 month's pay over- due. | Pending..... | Dec. 12 | | 110 | |
| Bigelow Sanford Carpet Co., Thompsonville, Conn. | do..... | Weavers..... | Alleged cut of 10 cents per yard.... | Adjusted. Satisfactory arrange- ment; weavers returned to work. | Dec. 23 | 1931 Jan. 1 | 12 | |
| Templeton Coal Co., Sullivan, Ind. | do..... | Coal miners..... | Interpretation of contract rela- tive to loading machines and other work. | Adjusted. All questions referred to arbitration and arbitrator selected. | do..... | Jan. 2 | 600 | |
| Total..... | | | | | | | 5,298 | 3,762 |

¹ Not reported.

HOUSING

Building Permits in Principal Cities, December, 1930

BUILDING permit reports have been received by the Bureau of Labor Statistics from 293 identical cities having a population of 25,000 and over for the months of November and December, 1930, and from 284 identical cities for the months of December, 1929, and December, 1930. The reports received from these cities show the amount of building projected in the corporate limits of the cities enumerated. No land costs are included.

The States of Illinois, Massachusetts, New Jersey, New York, and Pennsylvania, through their departments of labor are cooperating with the United States Bureau of Labor Statistics in the collection of these data.

Table 1 shows the estimated cost of new residential buildings, of new nonresidential buildings, and of total building operations in 293 cities of the United States by geographic divisions.

TABLE 1.—ESTIMATED COST OF NEW BUILDINGS IN 293 IDENTICAL CITIES AS SHOWN BY PERMITS ISSUED [IN NOVEMBER AND DECEMBER, 1930, BY GEOGRAPHIC DIVISIONS

| Geographic division | New residential buildings | | | | New nonresidential buildings, estimated cost | | Total construction (including alterations and repairs), estimated cost | |
|-------------------------|---------------------------|----------------|--|----------------|--|----------------|--|----------------|
| | Estimated cost | | Families provided for in new dwellings | | | | | |
| | November, 1930 | December, 1930 | November, 1930 | December, 1930 | November, 1930 | December, 1930 | November, 1930 | December, 1930 |
| New England..... | \$3, 113, 250 | \$5, 924, 550 | 582 | 522 | \$7, 202, 354 | \$10, 240, 943 | \$11, 493, 777 | \$17, 879, 311 |
| Middle Atlantic..... | 27, 999, 790 | 22, 279, 370 | 5, 796 | 4, 933 | 22, 800, 908 | 14, 702, 872 | 55, 529, 591 | 45, 289, 905 |
| East North Central.... | 5, 739, 553 | 4, 511, 172 | 1, 025 | 850 | 11, 676, 762 | 8, 313, 451 | 19, 741, 265 | 15, 837, 325 |
| West North Central.... | 2, 774, 810 | 1, 439, 879 | 504 | 358 | 1, 326, 755 | 6, 059, 733 | 4, 856, 591 | 8, 677, 520 |
| South Atlantic..... | 1, 905, 590 | 1, 507, 025 | 443 | 301 | 3, 122, 631 | 8, 809, 116 | 6, 294, 726 | 11, 394, 557 |
| South Central..... | 2, 940, 110 | 2, 933, 849 | 819 | 679 | 3, 988, 847 | 6, 563, 798 | 7, 653, 333 | 10, 377, 558 |
| Mountain and Pacific.. | 6, 058, 964 | 6, 161, 620 | 1, 837 | 1, 725 | 5, 894, 979 | 11, 562, 924 | 13, 633, 846 | 19, 453, 726 |
| Total..... | 50, 532, 067 | 44, 757, 465 | 11, 006 | 9, 368 | 56, 013, 236 | 66, 252, 837 | 119, 203, 129 | 128, 909, 920 |
| Per cent of change..... | | -11.4 | | -14.9 | | +18.3 | | +8.1 |

The estimated cost of total building operations for which permits were issued in these 293 cities during December, 1930, was \$128,909,920. This is an increase of 8.1 per cent as compared with November, 1930. New residential buildings decreased 11.4 per cent in estimated cost comparing December permits with November permits. However, there was an increase of 18.3 per cent in the estimated cost of the new nonresidential buildings for which permits were issued

during December as compared with those issued during November. According to permits issued in December, 9,368 family dwelling units were to be provided in new buildings. This is a decrease of 14.9 per cent as compared with the family dwelling units provided by permits issued during November.

Increases in the estimated cost of residential buildings occurred in the New England States and in the Mountain and Pacific States. The other geographic divisions showed decreases in the estimated cost of new residential buildings. Increases in the estimated cost of new nonresidential buildings were registered in the New England States, the West North Central States, the South Atlantic States, the South Central States, and the Mountain and Pacific States. The Middle Atlantic and the East North Central States were the only geographic divisions showing decreases in the estimated cost of new nonresidential buildings. Permits issued in December indicate increases in total construction in the New England States, the West North Central States, the South Atlantic States, the South Central States, and the Mountain and Pacific States. Decreases were registered in the Middle Atlantic States and the East North Central States. All geographic divisions registered decreases in the number of families provided for.

Table 2 shows the estimated cost of additions, alterations, and repairs as shown by permits issued, together with the percentage of increase or decrease in December, 1930, as compared with November, 1930, in 293 identical cities, by geographic divisions.

TABLE 2.—ESTIMATED COST OF ADDITIONS, ALTERATIONS, AND REPAIRS IN 293 IDENTICAL CITIES AS SHOWN BY PERMITS ISSUED IN NOVEMBER AND DECEMBER, 1930, BY GEOGRAPHIC DIVISIONS

| Geographic division | Estimated cost | | Per cent of increase or decrease, December, compared with November |
|---------------------------|----------------|----------------|--|
| | November, 1930 | December, 1930 | |
| New England..... | \$1, 178, 173 | \$1, 713, 818 | +45. 5 |
| Middle Atlantic..... | 4, 728, 893 | 8, 307, 663 | +75. 7 |
| East North Central..... | 2, 324, 950 | 3, 012, 702 | +29. 6 |
| West North Central..... | 755, 026 | 1, 177, 908 | +56. 0 |
| South Atlantic..... | 1, 266, 505 | 1, 078, 416 | -14. 9 |
| South Central..... | 724, 376 | 879, 911 | +21. 5 |
| Mountain and Pacific..... | 1, 679, 903 | 1, 729, 182 | + 2. 9 |
| Total..... | 12, 657, 826 | 17, 899, 600 | +41. 4 |

The estimated cost of the additions, alterations, and repairs authorized by permits issued during December, 1930, was \$17,899,600 which is an increase of 41.4 per cent over the estimated cost of the additions, alterations, and repairs authorized by November permits. There was an increase in indicated expenditures for repairs in all geographic divisions except the South Atlantic. These increases ranged from 2.9 per cent in the Mountain and Pacific States to 75.7 per cent in the Middle Atlantic States.

Table 3 shows the index numbers of families provided for and the index numbers of indicated expenditures for residential buildings, for nonresidential buildings, for additions, alterations, and repairs, and

for total building operations. These indexes are worked on the chain system with the monthly average of 1929 equaling 100.

TABLE 3.—INDEX NUMBERS OF FAMILIES PROVIDED FOR AND OF THE ESTIMATED COST OF BUILDING OPERATIONS AS SHOWN BY PERMITS ISSUED IN PRINCIPAL CITIES OF THE UNITED STATES, DECEMBER, 1929, TO DECEMBER, 1930, INCLUSIVE

[Monthly average, 1929=100]

| Month | Families provided for | Estimated costs of— | | | |
|--------------------|-----------------------|---------------------------|-------------------------------|-------------------------------------|---------------------------|
| | | New residential buildings | New non-residential buildings | Additions, alterations, and repairs | Total building operations |
| December..... 1929 | 35.9 | 30.2 | 74.3 | 66.1 | 51.7 |
| January..... 1930 | 34.2 | 29.4 | 64.3 | 55.1 | 46.1 |
| February..... | 43.0 | 34.7 | 51.8 | 57.5 | 44.1 |
| March..... | 57.1 | 47.2 | 87.1 | 77.5 | 66.4 |
| April..... | 62.0 | 51.0 | 100.1 | 81.8 | 73.8 |
| May..... | 59.6 | 48.5 | 90.7 | 84.5 | 69.3 |
| June..... | 54.4 | 45.1 | 82.5 | 74.6 | 63.3 |
| July..... | 49.9 | 44.1 | 86.7 | 77.4 | 64.8 |
| August..... | 48.7 | 43.4 | 67.2 | 58.6 | 54.4 |
| September..... | 51.3 | 44.4 | 73.8 | 64.2 | 58.2 |
| October..... | 58.3 | 44.9 | 53.5 | 58.1 | 49.7 |
| November..... | 52.9 | 42.5 | 54.4 | 37.8 | 46.3 |
| December..... | 45.0 | 37.6 | 64.3 | 53.5 | 50.1 |

The index number of families provided for decreased to 45.0 in December, 1930. At this point it is lower than for any month since February, 1930. The index number of indicated expenditures for new residential building also showed a decrease for December, standing at 37.6. This is 4.9 points lower than for November, 1930, but 7.4 points higher than for December, 1929.

The index number for new nonresidential building was 64.3 for December, 1930. This is an increase of 10.1 points over November, 1930 and is the highest point reached since September. The December index number for additions, alterations, and repairs showed an increase of 15.7 points as compared with November. Total building operations for December had an index number of 50.1. This is higher than either October or November.

The chart on page 123 shows in graphic form the estimated costs of new residential buildings, of new nonresidential buildings, and of total building operations.

Table 4 shows the estimated cost of new residential buildings, new nonresidential buildings, and of total building operations in 284 identical cities having a population of 25,000 or over for December, 1930, and December, 1929, by geographic divisions.

TABLE 4.—ESTIMATED COST OF NEW BUILDINGS IN 284 IDENTICAL CITIES AS SHOWN BY PERMITS ISSUED IN DECEMBER, 1929, AND DECEMBER, 1930

| Geographic division | New residential buildings | | | | New nonresidential buildings, estimated cost | | Total construction (including alterations and repairs), estimated cost | |
|---------------------------|---------------------------|----------------|--|----------------|--|----------------|--|----------------|
| | Estimated cost | | Families provided for in new dwellings | | | | | |
| | December, 1929 | December, 1930 | December, 1929 | December, 1930 | December, 1929 | December, 1930 | December, 1929 | December, 1930 |
| New England..... | \$2,683,700 | \$5,868,050 | 413 | 515 | \$7,366,120 | \$10,123,793 | \$11,529,733 | \$17,694,289 |
| Middle Atlantic..... | 13,316,200 | 21,960,870 | 2,101 | 4,932 | 26,511,265 | 14,616,307 | 48,081,174 | 44,871,015 |
| East North Central..... | 7,601,396 | 4,440,372 | 1,669 | 834 | 19,907,178 | 8,077,143 | 30,061,303 | 15,480,860 |
| West North Central..... | 1,119,065 | 1,439,879 | 301 | 358 | 2,210,224 | 6,059,733 | 4,219,757 | 8,677,520 |
| South Atlantic..... | 3,214,205 | 1,494,175 | 313 | 306 | 3,351,757 | 9,361,818 | 8,247,953 | 11,972,929 |
| South Central..... | 1,814,527 | 2,343,799 | 597 | 565 | 5,727,459 | 6,063,186 | 9,045,687 | 9,226,540 |
| Mountain and Pacific..... | 5,687,322 | 6,161,620 | 1,723 | 1,725 | 4,585,698 | 11,578,499 | 12,979,784 | 19,470,276 |
| Total..... | 35,436,415 | 43,708,765 | 7,117 | 9,235 | 69,659,701 | 65,880,479 | 124,165,391 | 127,393,429 |
| Per cent of change..... | | +23.3 | | +29.8 | | -5.4 | | +2.6 |

Comparing permits issued in December, 1930, with those issued in December, 1929, there was an increase in the estimated cost of all building operations of 2.6 per cent. New residential buildings increased 23.3 per cent in estimated cost. Permits issued for new nonresidential buildings, however, show a decrease of 5.4 per cent in estimated cost comparing December, 1930, with December, 1929. The number of families provided with dwelling places in the new dwellings for which permits were issued in December, 1930, was 29.8 per cent greater than the number of families provided for in the new dwellings for which permits were issued during December, 1929.

Increases in estimated cost of new residential buildings comparing December, 1930, with December, 1929, occurred in the New England States, the Middle Atlantic States, the West North Central States, the South Central States, and the Mountain and Pacific States. Decreases were registered in the East North Central States and the South Atlantic States. In new nonresidential building, increases were shown in the New England States, the West North Central States, the South Atlantic States, the South Central States, and the Mountain and Pacific States. The other geographic divisions showed decreases in this class of building. In total building operations, the following geographic divisions showed increases in estimated cost: New England States, the West North Central States, South Atlantic States, South Central States, and the Mountain and Pacific States. The Middle Atlantic States and the East North Central States registered decreases in total building operations. The number of family dwelling units provided in new buildings increased in the New England States, the Middle Atlantic States, the West North Central States, and the Mountain and Pacific States comparing December, 1930, permits with December, 1929, permits. Decreases in family dwelling units provided were shown in the East North Central States, the South Atlantic States, and the South Central States.

Table 5 shows the estimated cost of additions, alterations, and repairs as shown by permits issued, together with the per cent of increase or decrease in December, 1930, as compared with December, 1929.

TABLE 5.—ESTIMATED COST OF ADDITIONS, ALTERATIONS, AND REPAIRS IN 284 IDENTICAL CITIES AS SHOWN BY PERMITS ISSUED IN DECEMBER, 1929, AND DECEMBER, 1930

| Geographic division | Estimated cost | | Per cent of change, December, 1930, compared with December, 1929 |
|---------------------------|----------------|----------------|--|
| | December, 1929 | December, 1930 | |
| New England..... | \$1, 479, 913 | \$1, 702, 446 | +15. 0 |
| Middle Atlantic..... | 8, 253, 709 | 8, 293, 838 | + 0. 5 |
| East North Central..... | 2, 552, 729 | 2, 963, 345 | +16. 1 |
| West North Central..... | 890, 468 | 1, 177, 908 | +32. 3 |
| South Atlantic..... | 1, 681, 991 | 1, 116, 936 | -33. 6 |
| South Central..... | 1, 503, 701 | 819, 555 | -45. 5 |
| Mountain and Pacific..... | 2, 706, 764 | 1, 730, 157 | -36. 1 |
| Total..... | 19, 069, 275 | 17, 804, 185 | -6. 6 |

There was a decrease of 6.6 per cent in the estimated cost of the additions, alterations, and repairs for which permits were issued during December, 1930, as compared with the estimated cost of additions, alterations, and repairs for which permits were issued during December, 1929.

Increases in indicated expenditures for this class of building operation were shown in four districts and decreases in three districts. The increases ranged from 0.5 per cent in the Middle Atlantic States to 32.3 per cent in the West North Central States. The decreases ranged from 33.6 per cent in the South Atlantic States to 45.5 per cent in the South Central States.

Table 6 shows the estimated cost of new residential buildings, new nonresidential buildings, and total building operations, together with the number of families provided for in new dwellings in 293 identical cities for December, 1930, and November, 1930. Reports were received from 49 cities in the New England States; 65 cities in the Middle Atlantic States; 75 cities in the East North Central States; 24 cities in the West North Central States; 30 cities in the South Atlantic States; 25 cities in the South Central States; and 25 cities in the Mountain and Pacific States.

New England States

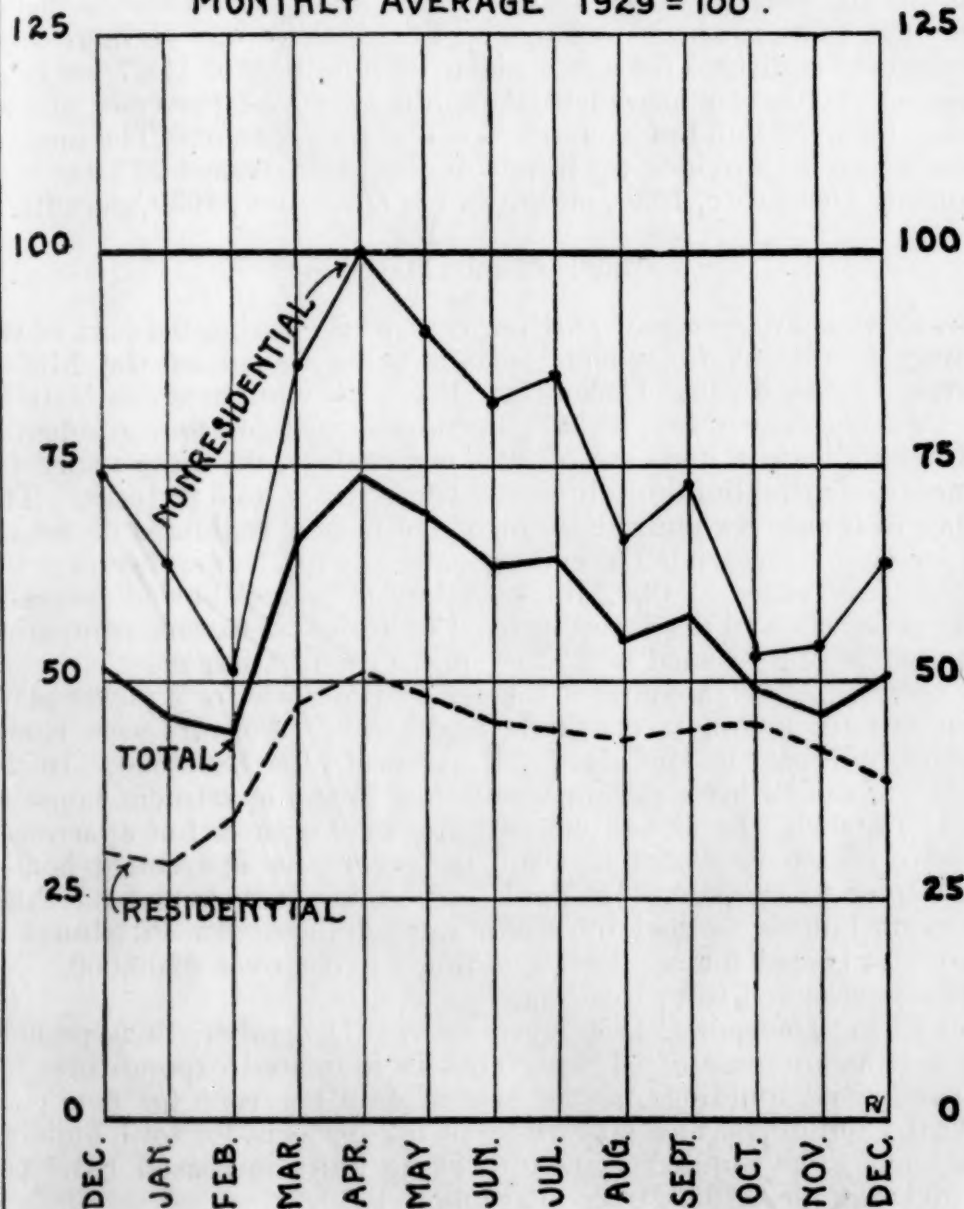
IN THE New England States there was an increase of 55.6 per cent in the estimated cost of all building operations for which permits were issued, comparing December, 1930, with November, 1930. There was an increase of 90.3 per cent in the estimated cost of new residential buildings in this district comparing December permits with November permits, and an increase of 42.2 per cent in the estimated cost of new nonresidential buildings. The number of families provided for in new dwelling places according to permits issued in December decreased 10.3 per cent as compared with the families provided for in new buildings for which permits were issued in November.

Increases in the estimated cost of the total building operations were registered in 20 cities in the New England States, while decreases were registered in 29. New Haven, Conn., issued permits during December indicating a larger expenditure for building operations than any other city in the New England States.

1930 INDEX NUMBERS.

COST OF RESIDENTIAL, NONRESIDENTIAL BUILDINGS,
AND TOTAL BUILDING OPERATIONS.

MONTHLY AVERAGE 1929 = 100.



Permits were issued for the following large buildings in New England during December: In New London, the supervising architect of the United States Treasury Department let a contract for the new Coast Guard Academy to cost over \$1,800,000. In New Haven, permits were issued for four buildings at Yale University to cost \$5,500,000. In Cambridge, a permit was issued for a new dormitory at Harvard University to cost \$3,000,000. In Fitchburg, a permit was issued for a factory building to cost \$600,000. Permits were issued for a public school building in Boston and one in Providence, each building to cost over \$200,000.

Comparing permits issued in December, 1930, with those issued in December, 1929, in the New England States there was an increase in indicated expenditures for new residential buildings of 118.7 per cent, an increase for new nonresidential buildings of 37.4 per cent, and an increase for total building construction of 53.5 per cent. The number of families to be provided for in new buildings increased 24.7 per cent comparing December, 1930, permits with December, 1929, permits.

Middle Atlantic States

THERE was a decrease of 18.4 per cent in the estimated cost of the building operations for which permits were issued in the Middle Atlantic States during December, 1930, as compared with those issued during November, 1930. Permits issued for new residential buildings indicate a decrease of 20.4 per cent, while those issued for new nonresidential buildings indicate a decrease of 35.5 per cent. The number of family dwelling units provided in new buildings decreased 14.9 per cent comparing December permits with November permits. Twenty-three cities in the Middle Atlantic States showed increases and 42 cities showed decreases in total building operations comparing December permits issued with November permits issued.

In Auburn, N. Y., a contract was let by the State for a power plant at the Auburn prison to cost over \$1,300,000. Permits were issued for store buildings in Buffalo, N. Y., to cost over \$800,000. In the Borough of the Bronx a permit was issued for an apartment house to cost \$1,750,000. In Brooklyn permits were issued for apartment houses to cost over \$3,500,000 and in Queens for apartment houses to cost over \$3,000,000. In Yonkers permits were issued for three apartment houses to cost over a million dollars. In Pittsburgh a permit was issued for a school building to cost over \$200,000. No report was received from Reading, Pa.

Comparing December, 1930, permits with December, 1929, permits there was an increase of 64.9 per cent in indicated expenditures for new residential buildings, a decrease of 44.9 per cent for new nonresidential buildings, and a decrease of 6.7 per cent for total building operations. The number of new dwelling units increased 134.7 per cent in December, 1930, over December, 1929.

East North Central States

PERMITS issued in the East North Central States during December, 1930, show a decrease of 19.8 per cent in the estimated cost of total building as compared with those issued during November, 1930. The permit record in this district shows a decrease of 21.4 per cent

in the estimated cost of new residential buildings and a decrease of 28.8 per cent in new nonresidential buildings, comparing December with November. The number of families provided with dwelling places in new buildings for which permits were issued decreased 17.1 per cent, comparing December with November. Twenty-five of the 75 cities from which reports were received in the East North Central district showed increases and 50 showed decreases in the estimated cost of total building construction.

A permit was issued for a theater in Aurora, Ill., to cost nearly \$250,000. In Chicago a permit was issued for a public school building to cost \$1,000,000. In Oak Park a permit was issued for a church to cost \$300,000. In Detroit permits were issued for six school buildings to cost over \$1,000,000. In Cincinnati a permit was issued for a public-school building to cost \$300,000, and in Dayton permits were issued for three institutional buildings to cost \$1,225,000.

No reports were received from South Bend (Ind.), Battle Creek (Mich.), and Zanesville (Ohio).

There was a decrease of 48.5 per cent in the estimated cost of all buildings for which permits were issued during December, 1930, as compared with those issued in December, 1929. Permits issued for new residential buildings during December, 1930, indicate a decrease of 41.6 per cent in estimated cost as compared with those issued during the same month of last year. The decrease in the case of new nonresidential buildings was 59.4 per cent and in the case of new family dwelling units provided 50.0 per cent.

West North Central States

COMPARING permits issued in December, 1930, with those issued in November, 1930, there was an increase in the estimated cost of all building operations of 78.7 per cent. While new residential buildings decreased 48.1 per cent, comparing December with November, new nonresidential buildings increased 356.7 per cent. This great increase is largely due to the expansion of this type of building in Kansas City (Mo.), Minneapolis, and St. Louis. The number of family units provided in new dwelling houses decreased 29.0 per cent in December as compared with November.

Twelve cities in this geographic division show increases in total building operations and 12 show decreases.

A permit was issued for a school building in Kansas City (Kans.), to cost nearly \$200,000. In Minneapolis, permits were issued for a public utility building to cost \$650,000 and for a public-school building to cost nearly \$550,000. In Kansas City (Mo.) a permit was issued for an office building to cost \$1,500,000. In St. Louis, permits were issued for an office building to cost \$1,000,000 and for a public-school building to cost \$270,000.

Comparing permits issued in December, 1930, with those issued in December, 1929, there was an increase in the indicated expenditures for both classes of new buildings and for total building operations. New residential buildings increased 28.7 per cent in estimated cost, new nonresidential buildings 174.2 per cent, and total buildings 105.6 per cent. The number of families provided with dwelling places in new buildings increased 18.9 per cent.

South Atlantic States

IN THE South Atlantic States there was a decrease of 20.9 per cent in the estimated cost of new residential buildings for which permits were issued during December, 1930, as compared with the cost of this class of building for which permits were issued during November. The new nonresidential buildings, however, increased 182.1 per cent in estimated cost, comparing December with November, and total building operations registered an increase of 81.0 per cent comparing permits issued in December with those issued in November. Nine cities in the South Atlantic States show increases in the estimated cost of all building operations and 21 show decreases in total building operations.

The large increase in indicated expenditures for new nonresidential buildings was accounted for by the increase in this class of structure in the city of Washington. A contract was let by the United States Capitol Architect for a new House Office Building in Washington to cost \$5,270,000. The municipal architect in Washington let contract for two school buildings to cost over \$1,300,000. In Baltimore a permit was issued for a public-school building to cost \$500,000. In Charleston (W. Va.) a contract was let for a unit of the State capitol to cost nearly \$600,000.

No reports were received from Pensacola (Fla.), Augusta and Savannah (Ga.), and Charleston (S. C.).

There was an increase of 45.2 per cent in the estimated cost of all the building operations for which permits were issued for December, 1930, as compared with the estimated cost of total building operations for which permits were issued during December, 1929. December, 1930, permits indicate a decrease of 53.5 per cent in estimated expenditures for new residential buildings, but an increase of 179.3 per cent in the estimated expenditures for new nonresidential buildings over December, 1929, permits. The number of family dwelling units provided by the December, 1930, permits decreased 2.2 per cent as compared with those provided by the new buildings for which permits were issued during December, 1929.

South Central States

BUILDING in the South Central States increased 35.6 per cent in December, 1930, as compared with November, 1930, according to permits issued. While the estimated cost of new residential buildings decreased 0.2 per cent, the estimated cost of new nonresidential buildings increased 64.6 per cent. The number of families provided for in new buildings decreased 17.7 per cent, comparing December permits with November permits. Thirteen cities in the South Central States showed increases in indicated expenditures for total building operations and 12 cities showed decreases for total building operations.

In New Orleans, a permit was issued for a new school building to cost over \$100,000. In Oklahoma City permits were issued for a Y. W. C. A. building to cost \$500,000 and for a public utility building to cost \$1,000,000. The United States Government let a contract for a Federal post office and courthouse in Oklahoma City to cost over \$950,000. In Knoxville (Tenn.), a permit was issued for the con-

struction of Henley-Street bridge to cost \$1,000,000. In Austin (Tex.), a permit was issued for a public-school building to cost over \$300,000. In Dallas a permit was issued for an office building to cost over \$600,000.

No reports were received from Birmingham (Ala.), Fort Smith (Ark.), Covington (Ky.), Muskogee (Okla.), and El Paso, Galveston, Laredo, and Port Arthur (Tex.).

Comparing building operations as shown by permits issued in December, 1930, with those issued in December, 1929, it is found that there was an increase of 29.2 per cent in the estimated cost of new residential buildings, an increase of 5.9 per cent in new non-residential buildings, and an increase of 2.0 per cent in total building operations. New family dwelling units decreased 5.4 per cent, comparing December, 1930, with December, 1929.

Mountain and Pacific States

THERE WAS an increase of 42.7 per cent in the estimated cost of building operations in the Mountain and Pacific States, comparing December with November. The increase in the cost of new residential buildings was 1.7 per cent. The estimated cost of new nonresidential buildings for which permits were issued increased 96.1 per cent comparing December, 1930, with November, 1930. New family dwelling units decreased 6.1 per cent in number, comparing December, 1930, with November, 1930. Reports were received from 25 cities in this district; 17 of these cities showed increases in total building operations and 8 showed decreases.

In Phoenix (Ariz.), a permit was issued for a theater building to cost \$300,000. In Oakland (Calif.), a permit was issued for a theater building to cost nearly \$800,000, and one in Pasadena for a school building to cost nearly \$200,000. In San Francisco permits were issued for a public utility building to cost \$750,000 and for three school buildings to cost over \$600,000. In Salt Lake City permits were issued for three school buildings to cost over \$1,100,000. In Seattle (Wash.), permits were issued for factory buildings to cost over \$3,500,000 and for a hotel to cost \$500,000. In Spokane a permit was issued for an office building to cost \$250,000.

No reports were received from Vallejo (Calif.), and Bellingham (Wash.).

The estimated cost of new residential buildings for which permits were issued in December, 1930, in the Mountain and Pacific States showed an increase of 8.3 per cent over the estimated cost of the new residential buildings for which permits were issued in this geographic division during December, 1929. The estimated cost of new nonresidential buildings increased 152.5 per cent, while the estimated cost of total building operations increased 50.0 per cent. The families provided with dwelling places in new buildings in this district increased 0.1 per cent, comparing December, 1930, permits with those of December, 1929.

Hawaii

COMPARING permits issued in Honolulu in December, 1930, with those issued in November, 1930, there was an increase in the estimated cost of new residential buildings of 11.6 per cent but a de-

crease in the estimated cost of new nonresidential buildings of 68.3 per cent. The estimated cost of total building operations for which permits were issued decreased 51.2 per cent. The number of family dwelling units provided in new dwellings decreased 28.1 per cent comparing December with November.

TABLE 6.—ESTIMATED COST OF BUILDINGS FOR WHICH PERMITS WERE ISSUED IN PRINCIPAL CITIES, NOVEMBER AND DECEMBER, 1930

New England States

| State and city | New residential buildings | | | | New nonresidential buildings, estimated cost | | Total construction (including alterations and repairs), estimated cost | |
|--------------------------------|---------------------------|------------------|--|--------------|--|-------------------|--|-------------------|
| | Estimated cost | | Families provided for in new dwellings | | | | | |
| | November | December | November | December | November | December | November | December |
| Connecticut: | | | | | | | | |
| Bridgeport..... | \$90,200 | \$200,000 | 26 | 45 | \$21,311 | \$63,395 | \$134,151 | \$307,260 |
| Greenwich..... | 122,000 | 262,500 | 32 | 16 | 21,950 | 3,600 | 187,500 | 347,150 |
| Hartford..... | 35,500 | 17,000 | 5 | 3 | 332,067 | 50,133 | 501,548 | 176,075 |
| Meriden..... | 36,650 | 27,800 | 9 | 7 | 4,200 | 5,845 | 63,835 | 91,215 |
| New Britain..... | 34,500 | 42,500 | 4 | 5 | 24,575 | 98,850 | 75,358 | 146,452 |
| New Haven..... | 135,000 | 62,000 | 24 | 15 | 31,680 | 5,625,700 | 215,438 | 5,707,606 |
| New London..... | 38,000 | 34,700 | 6 | 8 | 8,450 | 1,835,500 | 50,650 | 1,872,280 |
| Norwalk..... | 49,000 | 83,000 | 7 | 9 | 52,850 | 4,450 | 120,850 | 112,875 |
| Stamford..... | 57,500 | 44,700 | 9 | 8 | 15,050 | 18,750 | 105,340 | 117,250 |
| Waterbury..... | 47,600 | 15,000 | 12 | 3 | 9,400 | 18,850 | 67,650 | 45,350 |
| Maine: | | | | | | | | |
| Bangor..... | 10,500 | 800 | 4 | 1 | 650 | 170 | 11,300 | 1,970 |
| Lewiston..... | 5,000 | 13,500 | 1 | 3 | 400,900 | 400 | 406,300 | 13,900 |
| Portland..... | 37,850 | 29,500 | 10 | 5 | 36,150 | 2,775 | 89,239 | 44,933 |
| Massachusetts: | | | | | | | | |
| Boston ¹ | 436,000 | 441,400 | 107 | 108 | 1,345,845 | 605,805 | 2,038,911 | 1,447,054 |
| Brockton..... | 68,100 | 23,300 | 5 | 6 | 10,275 | 4,325 | 91,119 | 86,725 |
| Brookline..... | 85,500 | 119,000 | 6 | 13 | 22,400 | 9,300 | 130,200 | 137,562 |
| Cambridge..... | 25,000 | 3,062,000 | 6 | 12 | 1,562,205 | 32,000 | 1,610,908 | 3,119,820 |
| Chelsea..... | 0 | 0 | 0 | 0 | 1,450 | 200 | 8,885 | 3,625 |
| Chicopee..... | 13,500 | 5,700 | 3 | 2 | 17,050 | 1,040 | 31,225 | 8,540 |
| Everett..... | 26,000 | 4,000 | 8 | 1 | 20,000 | 675 | 50,775 | 33,875 |
| Fall River..... | 7,800 | 300 | 2 | 1 | 7,685 | 415,425 | 23,100 | 423,860 |
| Fitchburg..... | 9,000 | 7,900 | 2 | 2 | 29,800 | 601,475 | 44,895 | 614,075 |
| Haverhill..... | 13,900 | 7,500 | 4 | 2 | 38,225 | 2,200 | 58,590 | 22,325 |
| Holyoke..... | 6,000 | 24,000 | 1 | 2 | 5,200 | 0 | 11,800 | 75,625 |
| Lawrence..... | 5,500 | 0 | 1 | 0 | 31,375 | 1,150 | 43,170 | 2,340 |
| Lowell..... | 32,800 | 14,700 | 6 | 5 | 93,450 | 650 | 131,485 | 41,240 |
| Lynn..... | 12,000 | 34,000 | 3 | 7 | 4,194 | 14,090 | 47,194 | 75,020 |
| Malden..... | 115,000 | 10,000 | 29 | 2 | 22,690 | 2,200 | 145,565 | 23,000 |
| Medford..... | 110,500 | 93,500 | 19 | 17 | 8,440 | 3,600 | 129,565 | 105,050 |
| New Bedford..... | 5,500 | 0 | 1 | 0 | 19,200 | 9,375 | 37,025 | 21,575 |
| Newton..... | 443,400 | 317,500 | 46 | 29 | 12,920 | 52,725 | 487,380 | 515,360 |
| Pittsfield..... | 106,600 | 168,700 | 18 | 35 | 30,700 | 64,950 | 152,090 | 253,900 |
| Quincy..... | 83,700 | 93,000 | 19 | 26 | 136,165 | 15,090 | 236,633 | 121,123 |
| Revere..... | 19,500 | 13,000 | 4 | 4 | 15,170 | 9,450 | 42,495 | 26,375 |
| Salem..... | 17,000 | 0 | 4 | 0 | 8,450 | 10,450 | 83,775 | 14,885 |
| Somerville..... | 6,000 | 0 | 2 | 0 | 649,767 | 17,800 | 675,957 | 32,290 |
| Springfield..... | 64,100 | 30,350 | 14 | 6 | 1,762,525 | 55,650 | 1,864,225 | 100,000 |
| Taunton..... | 8,850 | 0 | 3 | 0 | 1,025 | 620 | 13,837 | 2,585 |
| Waltham..... | 46,500 | 68,300 | 9 | 16 | 7,925 | 60,300 | 57,700 | 131,625 |
| Watertown..... | 40,500 | 69,000 | 8 | 12 | 4,320 | 3,400 | 52,020 | 87,150 |
| Worcester..... | 261,100 | 89,800 | 38 | 19 | 15,730 | 93,730 | 296,985 | 203,570 |
| New Hampshire: | | | | | | | | |
| Manchester..... | 12,200 | 10,800 | 5 | 2 | 7,270 | 12,725 | 41,758 | 28,915 |
| Rhode Island: | | | | | | | | |
| Central Falls..... | 12,500 | 0 | 5 | 0 | 14,750 | 300 | 27,650 | 300 |
| Cranston..... | 53,500 | 101,400 | 12 | 21 | 11,235 | 13,200 | 70,950 | 118,015 |
| East Providence..... | 42,100 | 34,500 | 7 | 7 | 6,950 | 4,075 | 68,207 | 44,027 |
| Newport..... | 59,000 | 14,000 | 7 | 2 | 95,310 | 18,300 | 173,135 | 38,570 |
| Pawtucket..... | 55,300 | 41,400 | 13 | 6 | 162,900 | 4,850 | 221,880 | 52,530 |
| Providence..... | 110,000 | 189,500 | 16 | 28 | 59,700 | 367,650 | 254,304 | 870,870 |
| Woonsocket..... | 0 | 3,000 | 0 | 1 | 825 | 3,750 | 9,225 | 11,600 |
| Total..... | 3,113,250 | 5,924,550 | 582 | 522 | 7,202,354 | 10,240,943 | 11,493,777 | 17,879,311 |
| Per cent of change..... | | +90.3 | | -10.3 | | +42.2 | | +55.6 |

¹ Applications filed.

TABLE 6.—ESTIMATED COST OF BUILDINGS FOR WHICH PERMITS WERE ISSUED IN PRINCIPAL CITIES, NOVEMBER AND DECEMBER, 1930—Continued

Middle Atlantic States

| State and city | New residential buildings | | | | New nonresidential buildings, estimated cost | | Total construction (including alterations and repairs), estimated cost | |
|------------------------|---------------------------|-----------|--|-------|--|-----------|--|-----------|
| | Estimated cost | | Families provided for in new dwellings | | | | | |
| | | | | | November | December | November | December |
| New Jersey: | | | | | | | | |
| Atlantic City | 0 | \$10,700 | 0 | 1 | \$2,925 | \$1,417 | \$70,660 | \$52,010 |
| Bayonne | 0 | 0 | 0 | 0 | 25,000 | 11,350 | 30,200 | 11,900 |
| Bloomfield | \$112,000 | 79,000 | 26 | 20 | 7,000 | 7,000 | 120,000 | 87,000 |
| Camden | 34,200 | 100,000 | 18 | 41 | 367,850 | 31,875 | 417,475 | 139,235 |
| Clifton | 40,000 | 104,600 | 10 | 25 | 53,950 | 14,250 | 97,480 | 120,600 |
| East Orange | 28,000 | 142,400 | 6 | 29 | 41,250 | 132,975 | 100,479 | 287,109 |
| Elizabeth | 70,000 | 28,000 | 14 | 6 | 74,500 | 7,600 | 144,500 | 35,600 |
| Hoboken | 0 | 0 | 0 | 0 | 14,150 | 1,000 | 54,590 | 21,695 |
| Irvington | 38,500 | 16,000 | 10 | 4 | 21,340 | 8,100 | 68,465 | 33,651 |
| Jersey City | 62,500 | 24,000 | 14 | 6 | 114,925 | 34,025 | 220,725 | 113,600 |
| Kearny | 6,500 | 30,000 | 2 | 8 | 5,325 | 6,670 | 15,250 | 36,945 |
| Montclair | 17,500 | 76,000 | 1 | 5 | 18,025 | 75,030 | 59,975 | 156,336 |
| Newark | 1,876,500 | 256,500 | 443 | 52 | 201,277 | 148,870 | 2,168,490 | 497,180 |
| New Brunswick | 0 | 4,000 | 0 | 1 | 5,650 | 400,915 | 14,306 | 416,340 |
| Orange | 48,000 | 189,750 | 12 | 21 | 152,200 | 163,900 | 202,519 | 353,650 |
| Passaic | 10,000 | 0 | 1 | 0 | 11,775 | 1,000 | 38,473 | 9,897 |
| Paterson | 24,000 | 27,100 | 7 | 10 | 37,114 | 91,293 | 102,948 | 169,847 |
| Perth Amboy | 0 | 0 | 0 | 0 | 27,520 | 1,000 | 40,810 | 4,250 |
| Plainfield | 37,625 | 12,000 | 5 | 2 | 36,600 | 2,420 | 83,760 | 33,495 |
| Trenton | 0 | 12,300 | 0 | 3 | 55,543 | 48,110 | 69,098 | 68,810 |
| Union City | 8,000 | 0 | 1 | 0 | 216,800 | 450 | 236,230 | 8,575 |
| West New York | 0 | 0 | 0 | 0 | 1,200 | 5,600 | 5,675 | 9,500 |
| New York: | | | | | | | | |
| Albany | 86,800 | 297,800 | 9 | 38 | 157,122 | 13,600 | 296,553 | 375,039 |
| Amsterdam | 5,500 | 9,000 | 1 | 1 | 10,800 | 1,400 | 17,100 | 18,825 |
| Auburn | 21,600 | 6,500 | 5 | 1 | 3,970 | 1,335,040 | 32,120 | 1,344,540 |
| Binghamton | 21,000 | 42,000 | 4 | 3 | 21,101 | 2,787 | 68,805 | 90,090 |
| Buffalo | 141,040 | 432,500 | 31 | 118 | 484,760 | 1,346,650 | 688,238 | 1,842,312 |
| Elmira | 8,500 | 15,300 | 2 | 4 | 11,929 | 10,070 | 28,376 | 35,147 |
| Jamestown | 54,900 | 8,500 | 13 | 2 | 13,200 | 4,650 | 73,460 | 28,075 |
| Kingston | 32,000 | 9,500 | 6 | 3 | 4,935 | 7,575 | 44,095 | 33,400 |
| Mount Vernon | 577,900 | 67,000 | 75 | 7 | 69,108 | 24,611 | 669,883 | 100,076 |
| Newburgh | 28,050 | 0 | 2 | 0 | 500 | 643,800 | 29,130 | 653,500 |
| New Rochelle | 372,090 | 294,135 | 22 | 17 | 59,947 | 3,150 | 487,372 | 342,987 |
| New York City— | | | | | | | | |
| Bronx ¹ | 3,300,200 | 5,593,900 | 934 | 1,328 | 2,915,440 | 805,000 | 6,794,945 | 6,982,945 |
| Brooklyn ¹ | 5,161,550 | 4,598,600 | 1,268 | 1,033 | 570,465 | 506,575 | 6,277,619 | 5,988,492 |
| Manhattan ¹ | 9,410,000 | 550,000 | 1,411 | 154 | 12,251,980 | 3,678,556 | 22,870,685 | 8,482,976 |
| Queens ¹ | 3,846,600 | 5,478,800 | 1,021 | 1,458 | 542,532 | 1,207,382 | 4,669,119 | 7,353,317 |
| Richmond ¹ | 180,600 | 175,450 | 44 | 46 | 226,720 | 816,210 | 467,071 | 1,050,247 |
| Niagara Falls | 72,229 | 68,200 | 19 | 18 | 53,036 | 20,075 | 163,631 | 338,950 |
| Poughkeepsie | 54,800 | 6,000 | 10 | 1 | 5,100 | 125 | 63,580 | 9,225 |
| Rochester | 138,700 | 786,300 | 20 | 11 | 121,220 | 1,320,423 | 315,779 | 2,140,771 |
| Schenectady | 53,500 | 56,000 | 9 | 10 | 45,550 | 11,300 | 135,650 | 98,150 |
| Syracuse | 237,700 | 63,600 | 42 | 12 | 406,593 | 15,765 | 947,449 | 105,565 |
| Troy | 33,000 | 37,500 | 6 | 7 | 69,100 | 1,700 | 118,735 | 51,170 |
| Utica | 54,500 | 36,500 | 12 | 8 | 13,510 | 6,575 | 72,010 | 50,251 |
| Watertown | 4,500 | 0 | 2 | 0 | 4,520 | 900 | 17,986 | 115,375 |
| White Plains | 221,400 | 175,800 | 21 | 14 | 28,620 | 1,150 | 273,865 | 186,175 |
| Yonkers | 301,200 | 1,302,600 | 41 | 237 | 159,855 | 24,185 | 480,380 | 1,337,435 |
| Pennsylvania: | | | | | | | | |
| Allentown | 8,000 | 102,500 | 1 | 10 | 4,500 | 8,300 | 42,250 | 130,175 |
| Altoona | 32,200 | 2,500 | 6 | 1 | 14,956 | 5,682 | 55,745 | 18,127 |
| Bethlehem | 88,100 | 0 | 14 | 0 | 99,225 | 7,700 | 194,975 | 10,900 |
| Butler | 2,000 | 0 | 1 | 0 | 800 | 0 | 5,800 | 500 |
| Chester | 13,000 | 0 | 2 | 0 | 9,912 | 10,075 | 34,112 | 16,525 |
| Easton | 23,500 | 0 | 2 | 0 | 615 | 0 | 31,103 | 13,915 |
| Erie | 83,000 | 62,600 | 17 | 18 | 27,940 | 71,510 | 125,210 | 150,095 |
| Harrisburg | 33,500 | 318,500 | 5 | 1 | 12,725 | 71,586 | 83,760 | 397,461 |
| Hazleton | 28,456 | 0 | 3 | 0 | 2,783 | 4,904 | 33,691 | 4,904 |
| Johnstown | 2,500 | 0 | 1 | 0 | 6,155 | 1,600 | 43,855 | 14,460 |
| Lancaster | 0 | 3,000 | 0 | 1 | 109,545 | 4,280 | 121,839 | 36,330 |
| McKeesport | 25,200 | 13,300 | 4 | 3 | 6,170 | 1,050 | 45,445 | 20,189 |
| New Castle | 10,100 | 16,000 | 2 | 3 | 22,415 | 2,060 | 39,265 | 24,120 |
| Norristown | 60,000 | 29,000 | 8 | 3 | 3,863 | 500 | 78,228 | 31,395 |
| Philadelphia | 248,400 | 89,900 | 44 | 27 | 1,638,304 | 563,995 | 2,257,099 | 842,516 |
| Pittsburgh | 407,250 | 257,835 | 78 | 56 | 678,065 | 680,420 | 1,296,990 | 1,278,670 |

Applications filed.

TABLE 6.—ESTIMATED COST OF BUILDINGS FOR WHICH PERMITS WERE ISSUED IN PRINCIPAL CITIES, NOVEMBER AND DECEMBER, 1930—Continued

Middle Atlantic States—Continued

| State and city | New residential buildings | | | | New nonresidential buildings, estimated cost | | Total construction (including alterations and repairs), estimated cost | |
|--------------------|---------------------------|------------|--|----------|--|------------|--|------------|
| | Estimated cost | | Families provided for in new dwellings | | November | December | November | December |
| | November | December | November | December | | | | |
| Pennsylvania—Con. | | | | | | | | |
| Scranton | \$14,400 | \$3,500 | 4 | 1 | \$14,343 | \$7,140 | \$39,615 | \$19,467 |
| Wilkes-Barre | 0 | 15,100 | 0 | 4 | 108,127 | 213,405 | 133,921 | 241,958 |
| Wilkesburg | 9,000 | 106,800 | 1 | 32 | 3,000 | 4,850 | 17,200 | 118,836 |
| Williamsport | 72,000 | 0 | 1 | 0 | 4,158 | 1,329 | 80,468 | 2,314 |
| York | 6,000 | 35,000 | 2 | 8 | 289,775 | 38,382 | 303,276 | 94,788 |
| Total | 27,999,790 | 22,279,370 | 5,796 | 4,933 | 22,800,908 | 14,702,872 | 55,529,591 | 45,289,905 |
| Per cent of change | | -20.4 | | -14.9 | | -35.5 | | -18.4 |

East North Central States

| | | | | | | | | |
|----------------|-----------|-----------|-----|-----|-----------|-----------|-----------|-----------|
| Illinois: | | | | | | | | |
| Alton | \$8,300 | \$20,757 | 3 | 2 | \$1,850 | \$50,000 | \$22,735 | \$85,657 |
| Aurora | 33,020 | 26,600 | 5 | 7 | 39,927 | 244,575 | 83,128 | 276,689 |
| Belleville | 24,000 | 4,900 | 6 | 1 | 70,250 | 1,350 | 95,800 | 10,650 |
| Bloomington | 15,000 | 48,000 | 3 | 10 | 13,000 | 165,948 | 31,000 | 215,948 |
| Chicago | 544,800 | 446,900 | 81 | 67 | 3,271,800 | 1,898,700 | 4,099,500 | 2,486,600 |
| Cicero | 0 | 0 | 0 | 0 | 2,965 | 850 | 56,965 | 6,950 |
| Danville | 29,000 | 3,600 | 4 | 1 | 1,365 | 7,852 | 39,876 | 14,368 |
| Decatur | 17,200 | 0 | 2 | 0 | 198,075 | 900 | 218,175 | 10,600 |
| East St. Louis | 31,500 | 31,800 | 9 | 11 | 2,450 | 17,650 | 36,375 | 50,750 |
| Elgin | 29,000 | 17,700 | 6 | 3 | 29,825 | 1,980 | 66,600 | 20,970 |
| Evanston | 32,000 | 21,000 | 3 | 2 | 9,500 | 1,000 | 91,000 | 77,000 |
| Joliet | 50,000 | 55,300 | 7 | 9 | 159,850 | 0 | 217,750 | 65,150 |
| Moline | 50,800 | 13,500 | 11 | 3 | 38,800 | 950 | 98,368 | 33,119 |
| Oak Park | 69,000 | 13,000 | 9 | 1 | 5,035 | 429,665 | 80,635 | 499,130 |
| Peoria | 151,600 | 71,600 | 22 | 16 | 7,700 | 43,400 | 175,550 | 176,750 |
| Quincy | 409,500 | 15,500 | 3 | 3 | 2,240 | 2,700 | 412,990 | 18,500 |
| Rockford | 109,000 | 117,000 | 32 | 32 | 29,000 | 33,800 | 184,255 | 169,940 |
| Rock Island | 27,700 | 11,100 | 7 | 5 | 2,040 | 100,370 | 43,157 | 119,452 |
| Springfield | 32,900 | 63,050 | 10 | 16 | 12,070 | 23,768 | 58,120 | 97,952 |
| Indiana: | | | | | | | | |
| Anderson | 6,350 | 3,750 | 3 | 2 | 575 | 3,750 | 7,258 | 13,750 |
| East Chicago | 4,500 | 5,000 | 1 | 1 | 0 | 0 | 11,550 | 7,017 |
| Elkhart | 10,800 | 3,500 | 4 | 1 | 2,250 | 500 | 20,425 | 11,830 |
| Evansville | 20,000 | 25,800 | 5 | 9 | 25,350 | 87,825 | 51,773 | 128,535 |
| Fort Wayne | 87,350 | 58,700 | 20 | 14 | 26,368 | 153,805 | 129,177 | 233,405 |
| Gary | 10,000 | 22,600 | 3 | 4 | 30,250 | 8,785 | 68,685 | 36,685 |
| Hammond | 31,500 | 16,000 | 7 | 5 | 521,721 | 51,925 | 561,331 | 74,030 |
| Indianapolis | 164,650 | 99,790 | 52 | 18 | 110,690 | 190,308 | 342,410 | 327,392 |
| Kokomo | 0 | 0 | 0 | 0 | 742 | 290 | 7,817 | 725 |
| Marion | 0 | 0 | 0 | 0 | 10,600 | 0 | 11,300 | 5,433 |
| Muncie | 1,600 | 4,900 | 1 | 2 | 5,350 | 507 | 11,846 | 7,197 |
| Richmond | 17,500 | 8,500 | 5 | 3 | 3,200 | 198,250 | 25,850 | 213,475 |
| Terre Haute | 2,000 | 0 | 1 | 0 | 6,150 | 101,725 | 17,490 | 115,200 |
| Michigan: | | | | | | | | |
| Bay City | 12,000 | 24,000 | 2 | 6 | 2,200 | 625 | 24,110 | 24,725 |
| Detroit | 1,259,250 | 1,065,200 | 182 | 206 | 824,505 | 1,375,894 | 2,587,493 | 2,822,063 |
| Flint | 88,927 | 37,570 | 19 | 8 | 33,732 | 14,698 | 146,424 | 66,728 |
| Grand Rapids | 47,500 | 49,800 | 12 | 16 | 103,195 | 13,030 | 165,880 | 76,500 |
| Hamtramck | 5,500 | 0 | 1 | 0 | 66,150 | 62,000 | 75,215 | 63,586 |
| Highland Park | 0 | 0 | 0 | 0 | 1,400 | 8,700 | 10,175 | 8,700 |
| Jackson | 0 | 3,900 | 0 | 1 | 6,235 | 2,030 | 74,345 | 7,715 |
| Kalamazoo | 13,300 | 21,500 | 4 | 4 | 131,913 | 6,640 | 152,596 | 43,911 |
| Lansing | 33,000 | 20,900 | 8 | 7 | 17,585 | 875 | 56,220 | 25,710 |
| Muskegon | 3,500 | 17,700 | 1 | 5 | 3,110 | 20,000 | 21,340 | 41,150 |
| Pontiac | 1,040 | 0 | 2 | 0 | 37,445 | 316,205 | 40,425 | 318,005 |
| Port Huron | 5,500 | 650 | 2 | 1 | 250 | 300 | 6,450 | 3,250 |
| Saginaw | 20,800 | 33,800 | 6 | 11 | 18,845 | 1,055 | 43,956 | 71,045 |
| Ohio: | | | | | | | | |
| Akron | 28,600 | 51,200 | 5 | 5 | 130,981 | 15,903 | 178,123 | 83,868 |
| Ashtabula | 2,600 | 2,000 | 1 | 1 | 21,150 | 300 | 30,700 | 2,950 |
| Canton | 15,200 | 23,000 | 3 | 6 | 169,660 | 4,435 | 193,135 | 30,860 |
| Cincinnati | 780,550 | 1,089,550 | 148 | 148 | 559,725 | 506,505 | 1,491,065 | 1,751,680 |
| Cleveland | 194,500 | 133,000 | 38 | 27 | 2,057,800 | 68,300 | 2,491,700 | 642,250 |

TABLE 6.—ESTIMATED COST OF BUILDINGS FOR WHICH PERMITS WERE ISSUED IN PRINCIPAL CITIES, NOVEMBER AND DECEMBER, 1930—Continued

East North Central States—Continued

| State and city | New residential buildings | | | | New nonresidential buildings, estimated cost | | Total construction (including alterations and repairs), estimated cost | |
|-------------------------|---------------------------|-----------|--|----------|--|-----------|--|------------|
| | Estimated cost | | Families provided for in new dwellings | | | | | |
| | November | December | November | December | November | December | November | December |
| Ohio—Continued | | | | | | | | |
| Columbus..... | \$142,600 | \$111,800 | 24 | 23 | \$48,400 | \$17,450 | \$275,500 | \$158,850 |
| Dayton..... | 45,600 | 16,450 | 13 | 3 | 67,492 | 1,244,592 | 149,679 | 1,282,692 |
| East Cleveland..... | 0 | 27,200 | 0 | 2 | 1,192 | 24,085 | 8,302 | 52,135 |
| Hamilton..... | 4,000 | 9,800 | 1 | 2 | 212,020 | 234,000 | 218,180 | 246,464 |
| Lakewood..... | 72,000 | 26,500 | 21 | 4 | 7,535 | 2,530 | 83,705 | 32,255 |
| Lima..... | 0 | 0 | 0 | 0 | 512,642 | 1,080 | 513,514 | 2,840 |
| Lorain..... | 12,300 | 5,150 | 4 | 2 | 3,620 | 2,495 | 17,595 | 9,120 |
| Mansfield..... | 49,400 | 19,800 | 12 | 4 | 2,905 | 11,075 | 54,317 | 38,691 |
| Marion..... | 4,500 | 3,500 | 1 | 1 | 640 | 835 | 7,140 | 5,010 |
| Newark..... | 0 | 0 | 0 | 0 | 325 | 1,300 | 1,900 | 1,650 |
| Portsmouth..... | 0 | 1,500 | 0 | 1 | 4,327 | 6,650 | 6,925 | 11,275 |
| Springfield..... | 11,800 | 16,000 | 3 | 4 | 14,350 | 2,865 | 27,540 | 19,315 |
| Steubenville..... | 4,000 | 9,000 | 1 | 3 | 151,900 | 500 | 158,050 | 11,000 |
| Toledo..... | 65,600 | 40,505 | 18 | 6 | 831,436 | 28,770 | 952,831 | 129,715 |
| Warren..... | 16,770 | 2,100 | 5 | 1 | 3,685 | 12,600 | 27,325 | 21,820 |
| Youngstown..... | 69,375 | 42,600 | 15 | 9 | 138,345 | 1,735 | 219,100 | 91,595 |
| Wisconsin: | | | | | | | | |
| Fond du Lac..... | 5,200 | 13,350 | 1 | 5 | 8,565 | 550 | 17,595 | 13,900 |
| Green Bay..... | 36,500 | 4,500 | 11 | 1 | 1,550 | 5,700 | 40,060 | 13,700 |
| Kenosha..... | 19,430 | 5,500 | 4 | 1 | 4,800 | 3,350 | 29,330 | 13,276 |
| Madison..... | 75,700 | 46,000 | 15 | 11 | 8,010 | 224,758 | 90,903 | 303,505 |
| Milwaukee..... | 402,311 | 275,100 | 79 | 60 | 778,851 | 205,838 | 1,376,830 | 1,585,182 |
| Oshkosh..... | 24,785 | 2,400 | 7 | 1 | 46,968 | 2,750 | 56,363 | 7,900 |
| Racine..... | 71,645 | 24,800 | 13 | 5 | 14,125 | 11,550 | 134,445 | 52,960 |
| Sheboygan..... | 52,800 | 4,000 | 11 | 1 | 11,870 | 25,350 | 71,856 | 34,166 |
| Superior..... | 20,900 | 0 | 7 | 0 | 4,340 | 420 | 34,072 | 2,764 |
| Total..... | 5,739,553 | 4,511,172 | 1,025 | 850 | 11,676,762 | 8,313,451 | 19,741,265 | 15,837,325 |
| Per cent of change..... | | -21.4 | | -17.1 | | -28.8 | | -19.8 |

West North Central States

| | | | | | | | | |
|-------------------------|-----------|-----------|-----|-------|-----------|-----------|-----------|-----------|
| <i>Iowa:</i> | | | | | | | | |
| Burlington..... | \$2,130 | 0 | 1 | 0 | \$2,825 | \$4,875 | \$5,830 | \$5,250 |
| Cedar Rapids..... | 49,900 | \$21,850 | 14 | 3 | 26,700 | 23,100 | 86,831 | 71,635 |
| Council Bluffs..... | 1,000 | 8,000 | 1 | 1 | 12,250 | 11,300 | 17,250 | 50,800 |
| Davenport..... | 765,300 | 49,400 | 5 | 10 | 6,412 | 134,130 | 793,018 | 194,695 |
| Des Moines..... | 90,600 | 96,270 | 20 | 14 | 38,715 | 5,846 | 153,026 | 122,516 |
| Dubuque..... | 6,000 | 7,000 | 2 | 2 | 2,600 | 187,150 | 20,400 | 196,560 |
| Ottumwa..... | 12,000 | 5,000 | 2 | 1 | 8,000 | 40,000 | 20,500 | 54,000 |
| Sioux City..... | 210,200 | 29,500 | 20 | 8 | 12,685 | 51,375 | 232,535 | 83,525 |
| Waterloo..... | 35,200 | 11,500 | 11 | 4 | 150,475 | 6,375 | 187,295 | 18,700 |
| <i>Kansas:</i> | | | | | | | | |
| Hutchinson..... | 5,000 | 54,050 | 2 | 12 | 1,725 | 157,045 | 17,605 | 236,545 |
| Kansas City..... | 33,300 | 14,600 | 16 | 8 | 32,300 | 201,625 | 71,625 | 221,960 |
| Topeka..... | 13,500 | 24,000 | 2 | 3 | 5,375 | 125,252 | 24,465 | 165,012 |
| Wichita..... | 140,150 | 78,200 | 37 | 25 | 115,733 | 23,300 | 287,246 | 119,389 |
| <i>Minnesota:</i> | | | | | | | | |
| Duluth..... | 23,700 | 16,500 | 7 | 4 | 6,865 | 6,600 | 51,907 | 49,119 |
| Minneapolis..... | 403,600 | 359,905 | 112 | 91 | 211,665 | 1,493,015 | 676,535 | 1,973,780 |
| St. Paul..... | 230,700 | 161,004 | 42 | 32 | 104,418 | 12,252 | 390,053 | 277,558 |
| <i>Missouri:</i> | | | | | | | | |
| Joplin..... | 11,700 | 3,000 | 3 | 1 | 200 | 400 | 22,500 | 8,825 |
| Kansas City..... | 102,500 | 74,500 | 35 | 15 | 112,691 | 1,541,100 | 361,991 | 1,898,850 |
| Springfield..... | 10,400 | 9,500 | 6 | 4 | 10,750 | 57,900 | 25,475 | 100,135 |
| St. Joseph..... | 20,900 | 13,300 | 8 | 6 | 131,325 | 400 | 155,520 | 27,900 |
| St. Louis..... | 446,530 | 352,100 | 112 | 104 | 228,063 | 1,699,128 | 962,926 | 2,273,466 |
| <i>Nebraska:</i> | | | | | | | | |
| Lincoln..... | 13,500 | 20,000 | 4 | 3 | 22,000 | 67,915 | 44,675 | 91,565 |
| Omaha..... | 50,600 | 15,700 | 9 | 4 | 81,108 | 58,025 | 146,233 | 90,860 |
| <i>South Dakota:</i> | | | | | | | | |
| Sioux Falls..... | 96,400 | 15,000 | 33 | 3 | 1,875 | 151,625 | 101,150 | 344,875 |
| Total..... | 2,774,810 | 1,439,879 | 504 | 358 | 1,326,755 | 6,059,733 | 4,856,591 | 8,677,520 |
| Per cent of change..... | | -48.1 | | -29.0 | | +356.7 | | +78.7 |

TABLE 6.—ESTIMATED COST OF BUILDINGS FOR WHICH PERMITS WERE ISSUED IN PRINCIPAL CITIES, NOVEMBER AND DECEMBER, 1930—Continued

South Atlantic States

| State and city | New residential buildings | | | | New nonresidential buildings, estimated cost | | Total construction (including alterations and repairs), estimated cost | |
|-------------------------------|---------------------------|---------------------|--|----------------|--|----------------------|--|----------------------|
| | Estimated cost | | Families provided for in new dwellings | | November | December | November | December |
| | November | December | November | December | | | | |
| Delaware: | | | | | | | | |
| Wilmington..... | \$136,840 | \$78,000 | 23 | 15 | \$15,651 | \$12,525 | \$190,870 | \$117,022 |
| District of Columbia: | | | | | | | | |
| Washington..... | 956,500 | 665,000 | 223 | 97 | 488,825 | 7,117,860 | 1,606,779 | 7,968,753 |
| Florida: | | | | | | | | |
| Jacksonville..... | 23,250 | 26,950 | 13 | 7 | 18,860 | 20,375 | 78,040 | 68,390 |
| Miami..... | 32,050 | 29,800 | 6 | 8 | 32,240 | 21,015 | 112,288 | 93,987 |
| St. Petersburg..... | 18,600 | 19,500 | 3 | 2 | 4,900 | 5,200 | 55,200 | 40,750 |
| Tampa..... | 7,800 | 9,900 | 5 | 4 | 8,544 | 7,280 | 31,558 | 38,600 |
| Georgia: | | | | | | | | |
| Atlanta..... | 39,700 | 59,150 | 28 | 30 | 53,125 | 61,385 | 154,949 | 323,273 |
| Columbus..... | 25,800 | 5,800 | 11 | 3 | 482 | 22,155 | 33,222 | 30,465 |
| Macon..... | 8,850 | 3,325 | 8 | 7 | 38,425 | 0 | 71,070 | 21,586 |
| Maryland: | | | | | | | | |
| Baltimore..... | 232,000 | 313,000 | 45 | 61 | 1,024,875 | 851,300 | 1,786,175 | 1,535,200 |
| Cumberland..... | 20,850 | 4,500 | 5 | 1 | 2,015 | 450 | 23,540 | 5,465 |
| Hagerstown..... | 22,500 | 17,500 | 3 | 2 | 3,840 | 1,600 | 26,340 | 19,100 |
| North Carolina: | | | | | | | | |
| Asheville..... | 0 | 0 | 0 | 0 | 7,260 | 1,225 | 19,760 | 2,200 |
| Charlotte..... | 66,600 | 43,550 | 8 | 11 | 75,070 | 9,035 | 158,753 | 65,419 |
| Durham..... | 130,400 | 4,200 | 7 | 2 | 51,624 | 7,500 | 186,074 | 21,700 |
| Greensboro..... | 11,000 | 6,000 | 2 | 1 | 6,300 | 1,350 | 31,065 | 21,320 |
| Wilmington..... | 6,000 | 6,000 | 3 | 2 | 1,000 | 26,000 | 10,700 | 34,950 |
| Winston-Salem..... | 11,650 | 9,600 | 5 | 6 | 2,295 | 13,965 | 32,591 | 40,595 |
| South Carolina: | | | | | | | | |
| Columbia..... | 17,800 | 18,000 | 4 | 7 | 89,250 | 530 | 115,980 | 23,210 |
| Greenville..... | 7,750 | 0 | 3 | 0 | 22,345 | 65,141 | 35,480 | 68,266 |
| Virginia: | | | | | | | | |
| Lynchburg..... | 7,100 | 18,000 | 4 | 4 | 320,350 | 101,925 | 331,190 | 129,610 |
| Newport News..... | 2,000 | 12,350 | 2 | 6 | 233,817 | 3,850 | 253,239 | 28,583 |
| Norfolk..... | 23,650 | 44,300 | 6 | 7 | 269,270 | 40,685 | 316,502 | 106,215 |
| Petersburg..... | 3,000 | 0 | 1 | 0 | 5,000 | 9,850 | 13,500 | 10,855 |
| Portsmouth..... | 3,200 | 9,000 | 1 | 3 | 7,150 | 81,415 | 19,630 | 99,025 |
| Richmond..... | 47,400 | 45,950 | 14 | 11 | 282,463 | 30,963 | 448,649 | 125,991 |
| Roanoke..... | 13,800 | 10,350 | 3 | 2 | 1,990 | 550 | 20,375 | 38,378 |
| West Virginia: | | | | | | | | |
| Charleston ¹ | 0 | ¹ 30,950 | 0 | ¹ 7 | 0 | ¹ 578,702 | 0 | ¹ 613,322 |
| Clarksburg..... | 0 | 0 | 0 | 0 | 9,315 | 279,750 | 19,115 | 284,650 |
| Huntington..... | 16,000 | 0 | 4 | 0 | 1,795 | 13,327 | 35,695 | 13,327 |
| Wheeling..... | 13,500 | 9,500 | 3 | 2 | 44,555 | 910 | 76,397 | 17,672 |
| Total..... | 1,905,590 | 1,507,025 | 443 | 301 | 3,122,631 | 8,809,116 | 6,294,726 | 11,394,557 |
| Per cent of change..... | | -20.9 | | -32.1 | | +182.1 | | +81.0 |

South Central States

| | | | | | | | | |
|--------------------|----------|-----------|-----|-----|-----------|-----------|-----------|-----------|
| Alabama: | | | | | | | | |
| Mobile..... | \$13,275 | \$16,750 | 11 | 6 | \$65,910 | 0 | \$146,231 | \$33,159 |
| Montgomery..... | 16,400 | 21,650 | 13 | 13 | 4,015 | \$14,185 | 29,070 | 55,830 |
| Arkansas: | | | | | | | | |
| Little Rock..... | 54,000 | 22,600 | 20 | 7 | 2,968 | 101,980 | 64,548 | 132,162 |
| Kentucky: | | | | | | | | |
| Lexington..... | 21,950 | 36,000 | 10 | 7 | 15,785 | 74,960 | 48,585 | 121,910 |
| Louisville..... | 141,250 | 78,350 | 27 | 12 | 34,490 | 11,900 | 247,490 | 97,300 |
| Newport..... | 4,500 | 0 | 1 | 0 | 3,000 | 18,200 | 7,650 | 18,800 |
| Paducah..... | 300 | 5,310 | 1 | 6 | 150 | 0 | 975 | 5,310 |
| Louisiana: | | | | | | | | |
| Baton Rouge..... | 30,224 | 5,350 | 11 | 3 | 82,575 | 28,462 | 118,846 | 51,391 |
| New Orleans..... | 305,725 | 57,600 | 18 | 11 | 211,792 | 110,845 | 572,621 | 238,830 |
| Shreveport..... | 5,675 | 8,850 | 8 | 3 | 12,922 | 3,918 | 45,448 | 32,741 |
| Oklahoma: | | | | | | | | |
| Oklahoma City..... | 588,750 | 1,022,800 | 159 | 100 | 1,789,800 | 2,606,807 | 2,405,650 | 3,710,332 |
| Okmulgee..... | 0 | 0 | 0 | 0 | 4,500 | 0 | 4,500 | 950 |
| Tulsa..... | 271,815 | 185,050 | 89 | 56 | 316,742 | 17,185 | 629,239 | 530,899 |

¹ Not included in total.

TABLE 6.—ESTIMATED COST OF BUILDINGS FOR WHICH PERMITS WERE ISSUED IN PRINCIPAL CITIES, NOVEMBER AND DECEMBER, 1930—Continued

South Central States—Continued

| State and City | New residential buildings | | | | New nonresidential buildings, estimated cost | | Total construction (including alterations and repairs), estimated cost | |
|-------------------------|---------------------------|-----------|--|----------|--|-----------|--|------------|
| | Estimated cost | | Families provided for in new dwellings | | November | December | November | December |
| | November | December | November | December | | | | |
| Tennessee: | | | | | | | | |
| Chattanooga..... | \$20,100 | 0 | 9 | 0 | \$78,450 | \$14,000 | \$163,196 | \$34,131 |
| Knoxville..... | 13,800 | \$29,820 | 8 | 8 | 3,850 | 1,025,878 | 26,416 | 1,055,998 |
| Memphis..... | 155,350 | 51,350 | 49 | 31 | 63,960 | 37,700 | 289,900 | 158,080 |
| Nashville..... | 58,200 | 15,250 | 21 | 12 | 24,300 | 168,100 | 112,345 | 228,139 |
| Texas: | | | | | | | | |
| Austin..... | 47,083 | 28,075 | 25 | 26 | 12,603 | 371,626 | 71,422 | 399,701 |
| Beaumont..... | 24,685 | 89,125 | 11 | 13 | 4,812 | 5,764 | 58,629 | 128,816 |
| Dallas..... | 146,600 | 141,550 | 64 | 64 | 674,355 | 1,024,210 | 889,604 | 1,266,046 |
| Fort Worth..... | 211,600 | 397,649 | 40 | 91 | 44,796 | 42,585 | 297,784 | 466,723 |
| Houston..... | 690,500 | 506,350 | 142 | 99 | 471,200 | 446,250 | 1,182,850 | 968,196 |
| San Antonio..... | 111,795 | 208,637 | 75 | 108 | 11,155 | 364,692 | 156,170 | 607,059 |
| Waco..... | 4,333 | 5,733 | 3 | 3 | 43,767 | 13,001 | 63,167 | 27,820 |
| Wichita Falls..... | 2,200 | 0 | 4 | 0 | 10,950 | 1,550 | 20,997 | 7,235 |
| Total..... | 2,940,110 | 2,933,849 | 819 | 679 | 3,988,847 | 6,563,798 | 7,653,333 | 10,377,558 |
| Per cent of change..... | | -0.2 | | -17.1 | | +64.6 | | +35.6 |

Mountain and Pacific States

| | | | | | | | | |
|-------------------------|-----------|-----------|-------|-------|-----------|------------|------------|------------|
| Arizona: | | | | | | | | |
| Phoenix..... | \$42,900 | \$52,250 | 12 | 16 | \$68,695 | \$332,225 | \$127,130 | \$396,456 |
| Tucson..... | 27,000 | 15,000 | 10 | 7 | 80,530 | 49,685 | 119,507 | 78,785 |
| California: | | | | | | | | |
| Alameda..... | 5,000 | 100,700 | 1 | 32 | 4,500 | 1,955 | 16,300 | 148,332 |
| Berkeley..... | 67,850 | 49,200 | 13 | 12 | 9,660 | 43,510 | 96,199 | 129,831 |
| Fresno..... | 35,300 | 42,950 | 11 | 11 | 62,255 | 13,410 | 140,035 | 89,985 |
| Long Beach..... | 311,950 | 276,360 | 132 | 110 | 231,060 | 406,140 | 593,900 | 729,230 |
| Los Angeles..... | 2,531,139 | 2,402,510 | 905 | 784 | 1,682,145 | 2,298,159 | 4,784,444 | 5,283,235 |
| Oakland..... | 114,250 | 129,600 | 27 | 25 | 118,440 | 850,832 | 345,101 | 1,040,117 |
| Pasadena..... | 64,000 | 71,020 | 14 | 13 | 88,844 | 200,855 | 209,031 | 313,741 |
| Sacramento..... | 84,750 | 133,950 | 27 | 32 | 13,890 | 119,320 | 140,454 | 284,810 |
| San Diego..... | 134,300 | 199,850 | 38 | 47 | 20,190 | 242,925 | 190,886 | 555,752 |
| San Francisco..... | 979,900 | 654,250 | 188 | 171 | 175,226 | 1,416,561 | 1,308,422 | 2,260,764 |
| San Jose..... | 42,525 | 68,900 | 13 | 15 | 41,330 | 124,160 | 100,805 | 200,450 |
| Stockton..... | 25,550 | 46,300 | 6 | 10 | 2,365 | 25,015 | 37,488 | 83,090 |
| Colorado: | | | | | | | | |
| Colorado Springs..... | 8,500 | 9,300 | 2 | 3 | 2,403 | 6,635 | 19,673 | 34,335 |
| Denver..... | 203,500 | 98,000 | 79 | 24 | 55,050 | 59,200 | 369,200 | 237,950 |
| Pueblo..... | 14,500 | 8,250 | 3 | 4 | 9,595 | 4,235 | 28,270 | 26,553 |
| Montana: | | | | | | | | |
| Great Falls..... | 23,100 | 1,800 | 5 | 1 | 5,903 | 15,475 | 36,078 | 20,600 |
| Oregon: | | | | | | | | |
| Portland..... | 572,850 | 360,530 | 114 | 116 | 234,145 | 166,105 | 992,960 | 669,415 |
| Utah: | | | | | | | | |
| Ogden..... | 27,000 | 10,500 | 16 | 3 | 286,118 | 0 | 328,218 | 11,225 |
| Salt Lake City..... | 47,400 | 71,300 | 14 | 27 | 36,110 | 1,184,584 | 117,115 | 1,282,514 |
| Washington: | | | | | | | | |
| Everett..... | 12,750 | 12,850 | 5 | 5 | 9,055 | 77,895 | 29,995 | 93,280 |
| Seattle..... | 584,550 | 1,268,200 | 172 | 236 | 2,340,205 | 3,635,533 | 3,024,525 | 5,061,308 |
| Spokane..... | 67,900 | 56,050 | 20 | 13 | 26,865 | 264,210 | 121,265 | 337,230 |
| Tacoma..... | 30,500 | 22,000 | 10 | 8 | 290,400 | 24,000 | 356,845 | 84,738 |
| Total..... | 6,058,964 | 6,161,620 | 1,837 | 1,725 | 5,894,979 | 11,562,924 | 13,633,816 | 19,453,726 |
| Per cent of change..... | | +1.7 | | -6.1 | | +96.1 | | +42.7 |

Hawaii

| | | | | | | | | |
|-------------------------|-----------|-----------|----|-------|-----------|-----------|-----------|-----------|
| Hawaii: | | | | | | | | |
| Honolulu..... | \$139,984 | \$156,148 | 57 | 41 | \$542,302 | \$171,850 | \$701,881 | \$342,368 |
| Per cent of change..... | | +11.6 | | -28.1 | | -68.3 | | -51.2 |

WAGES AND HOURS OF LABOR

Wages and Hours of Labor in the Cane-Sugar Refining Industry, 1930

IN 1930 a study of wages and hours of labor of wage earners, by occupations, in the cane-sugar refining industry in continental United States was made by the Bureau of Labor Statistics. The study included workers in all processes, beginning with the receipt of the raw-cane sugar at the refineries, including all operations or occupations in the process of refining, and ending with the work of packing and shipping the refined sugar from the plants in the form of granulated, cube, powdered, and brown sugar.

The United States Census of Manufactures reported an average of 13,920 wage earners in cane-sugar refineries in continental United States in 1929. The bureau's study covered 11,027 male and 863 female employees of 21 refineries and therefore represents practically the entire industry.

The study showed that the average full-time hours per week for males in this industry ranged, in the various occupations, from 51.7 for boilermakers to 64.3 for blow-up tankmen. The occupation of packer was the only one in which women were employed, with the exception of a small number (too small to be tabulated separately) included in the group of "other employees"; the hours of the woman packers averaged 50.8 per week. For all employees in the industry the average was 58.7 per week. In plants with a 2-shift cycle in which employees alternated, working on the day shift one week and the night shift the next week, the average for each employee for the two shifts was used in computing average full-time hours per week for them. The hours of employees who worked 13 consecutive days, followed by 2 days off duty, were adjusted to a full-time week basis.

By occupations, average earnings per hour for males ranged from 41.3 cents for laborers to 69.4 cents for sugar boilers. The average for packers, female, was 28.9 cents; for females in the group of "other employees," 29 cents. For both sexes in all occupations combined the average was 46.1 cents per hour. Average full-time earnings per week for males ranged from \$24.74 for laborers to \$37.13 for sugar boilers; the average for packers, female, was \$14.68, for females in the group of "other employees," \$16.97; and for both sexes in all occupations combined, \$27.06.

Details are shown in Table 1.

TABLE 1.—AVERAGE FULL-TIME HOURS AND EARNINGS IN THE SUGAR-REFINING INDUSTRY, 1930, BY OCCUPATION AND SEX

| Occupation | Sex | Number of establishments | Number of wage earners | Average full-time hours per week | Average earnings per hour | Average full-time weekly earnings |
|-------------------------------------|-------------|--------------------------|------------------------|----------------------------------|---------------------------|-----------------------------------|
| Minglers..... | Male..... | 19 | 49 | 60.2 | \$0.434 | \$26.13 |
| Centrifugal tenders..... | do..... | 21 | 841 | 60.6 | .463 | 28.06 |
| Melters..... | do..... | 21 | 94 | 63.0 | .461 | 29.04 |
| Pumpmen..... | do..... | 19 | 90 | 63.6 | .451 | 28.68 |
| Blow-up tankmen..... | do..... | 21 | 77 | 64.3 | .444 | 28.55 |
| Filter pressmen..... | do..... | 21 | 268 | 61.8 | .453 | 28.00 |
| Char house laborers..... | do..... | 21 | 507 | 62.2 | .442 | 27.49 |
| Char kiln firemen..... | do..... | 21 | 138 | 62.3 | .500 | 31.15 |
| Liquor runners..... | do..... | 21 | 79 | 60.0 | .529 | 31.74 |
| Evaporator tenders..... | do..... | 20 | 65 | 58.8 | .530 | 31.16 |
| Tankmen..... | do..... | 19 | 118 | 62.5 | .461 | 28.81 |
| Sugar boilers..... | do..... | 21 | 225 | 53.5 | .694 | 37.13 |
| Crystallizers and mixers..... | do..... | 21 | 108 | 62.1 | .447 | 27.76 |
| Granulators..... | do..... | 21 | 68 | 62.3 | .474 | 29.53 |
| Packers..... | do..... | 21 | 1,323 | 60.6 | .440 | 26.66 |
| Do..... | Female..... | 18 | 780 | 50.8 | .289 | 14.68 |
| Weighers and checkers..... | Male..... | 21 | 355 | 58.7 | .504 | 29.58 |
| Oilers..... | do..... | 21 | 183 | 63.2 | .477 | 30.15 |
| Laborers..... | do..... | 21 | 3,956 | 59.9 | .413 | 24.74 |
| Boilermakers..... | do..... | 10 | 37 | 51.7 | .682 | 35.26 |
| Electricians..... | do..... | 20 | 145 | 55.5 | .657 | 36.46 |
| Elevator men..... | do..... | 18 | 69 | 59.4 | .469 | 27.86 |
| Pipe fitters..... | do..... | 19 | 99 | 52.9 | .663 | 35.07 |
| Other employees..... | do..... | 21 | 2,133 | 55.9 | .556 | 31.08 |
| | Female..... | 14 | 83 | 58.5 | .290 | 16.97 |
| All employees..... | Male..... | 21 | 11,027 | 59.3 | .472 | 27.99 |
| | Female..... | 19 | 863 | 51.5 | .289 | 14.88 |
| All employees, male and female..... | | 21 | 11,890 | 58.7 | .461 | 27.06 |

Average Hours and Earnings, 1930, by Sex and Districts

Average full-time hours per week, earnings per hour, and full-time earnings per week for wage earners of each sex and for both sexes in all occupations combined, or the industry, are presented in Table 2 by districts. (The averages are shown by districts instead of by States to avoid presenting wage figures for one refinery.) District 1 includes the cane-sugar refineries in Massachusetts, New York, and New Jersey; district 2, those in Pennsylvania and Maryland; district 3, those in Georgia, Louisiana, and Texas; and district 4, those in California.

Average full-time hours per week for males ranged in the various districts from 47.8 to 61.8, the average for all districts combined being 59.3; for females the average ranged from 48 to 54, the average for all districts combined being 51.5. For both sexes combined the range was from 47.8 to 61.

By districts average earnings per hour of males ranged from 30.3 to 63.3 cents and for all districts combined averaged 47.2 cents; those of females ranged from 19.1 to 42.2 cents and averaged 28.9 cents; and those of both sexes combined ranged from 29.5 to 62.2 cents. Average full-time earnings per week of males ranged from \$18.30 to \$32.38; and for all districts averaged \$27.99; those of females ranged from \$10.31 to \$20.26, and for all districts combined averaged \$14.88; and those of males and females combined ranged from \$17.67 to \$31.48 per week.

TABLE 2.—AVERAGE HOURS AND EARNINGS IN THE SUGAR-REFINING INDUSTRY, 1930, BY SEX AND DISTRICT

| Sex and district | Number of establishments | Number of employees | Average full-time hours per week | Average earnings per hour | Average full-time earnings per week |
|---------------------------|--------------------------|---------------------|----------------------------------|---------------------------|-------------------------------------|
| Males: | | | | | |
| District No. 1..... | 8 | 4,514 | 61.8 | \$0.524 | \$32.38 |
| District No. 2..... | 4 | 2,015 | 60.6 | .490 | 29.74 |
| District No. 3..... | 7 | 2,982 | 60.4 | .303 | 18.30 |
| District No. 4..... | 2 | 1,516 | 47.8 | .633 | 30.33 |
| Total..... | 21 | 11,027 | 59.3 | .472 | 27.99 |
| Females: | | | | | |
| District No. 1..... | 7 | 310 | 49.2 | .362 | 17.85 |
| District No. 2..... | 4 | 183 | 53.6 | .262 | 14.04 |
| District No. 3..... | 6 | 274 | 54.0 | .191 | 10.31 |
| District No. 4..... | 2 | 96 | 48.0 | .422 | 20.26 |
| Total..... | 19 | 863 | 51.5 | .289 | 14.88 |
| Males and females: | | | | | |
| District No. 1..... | 8 | 4,824 | 61.0 | .516 | 31.48 |
| District No. 2..... | 4 | 2,198 | 60.0 | .475 | 28.50 |
| District No. 3..... | 7 | 3,256 | 59.9 | .295 | 17.67 |
| District No. 4..... | 2 | 1,612 | 47.8 | .622 | 29.73 |
| Total..... | 21 | 11,890 | 58.7 | .461 | 27.06 |

Table 3 presents, by districts, average full-time hours per week, earnings per hour, and full-time earnings per week for the wage earners in six of the occupations (all males) in Table 1. The averages in these occupations are representative of the averages in all occupations in the industry. The wage earners in them represent 47.8 per cent of the total number in all occupations.

TABLE 3.—AVERAGE HOURS AND EARNINGS FOR SIX SPECIFIED OCCUPATIONS, IN THE SUGAR-REFINING INDUSTRY, 1930, BY SEX AND DISTRICT

| Occupation and district | Number of establishments | Number of employees | Average full-time hours per week | Average earnings per hour | Average full-time earnings per week |
|-----------------------------|--------------------------|---------------------|----------------------------------|---------------------------|-------------------------------------|
| Centrifugal tenders: | | | | | |
| District No. 1..... | 8 | 286 | 68.1 | \$0.491 | \$33.44 |
| District No. 2..... | 4 | 177 | 60.5 | .475 | 28.74 |
| District No. 3..... | 7 | 238 | 59.1 | .346 | 20.45 |
| District No. 4..... | 2 | 140 | 48.0 | .597 | 28.66 |
| Total..... | 21 | 841 | 60.6 | .463 | 28.06 |
| Blow-up tankmen: | | | | | |
| District No. 1..... | 8 | 28 | 70.1 | .503 | 35.26 |
| District No. 2..... | 4 | 11 | 60.0 | .499 | 29.94 |
| District No. 3..... | 7 | 27 | 62.9 | .292 | 18.37 |
| District No. 4..... | 2 | 11 | 48.0 | .614 | 29.47 |
| Total..... | 21 | 77 | 64.3 | .444 | 28.55 |
| Char-house laborers: | | | | | |
| District No. 1..... | 8 | 183 | 66.8 | .492 | 32.87 |
| District No. 2..... | 4 | 131 | 64.2 | .474 | 30.43 |
| District No. 3..... | 7 | 127 | 60.9 | .268 | 16.32 |
| District No. 4..... | 2 | 66 | 48.0 | .604 | 28.99 |
| Total..... | 21 | 507 | 62.2 | .442 | 27.49 |

TABLE 3.—AVERAGE HOURS AND EARNINGS FOR SIX SPECIFIED OCCUPATIONS, IN THE SUGAR-REFINING INDUSTRY, 1930, BY SEX AND DISTRICT—Continued

| Occupation and district | Number of establishments | Number of employees | Average full-time hours per week | Average earnings per hour | Average full-time earnings per week |
|-------------------------|--------------------------|---------------------|----------------------------------|---------------------------|-------------------------------------|
| Liquor runners: | | | | | |
| District No. 1..... | 8 | 36 | 63.6 | \$0.530 | \$33.71 |
| District No. 2..... | 4 | 14 | 58.3 | .503 | 29.32 |
| District No. 3..... | 7 | 16 | 63.0 | .401 | 25.26 |
| District No. 4..... | 2 | 13 | 48.0 | .758 | 36.38 |
| Total..... | 21 | 79 | 60.0 | .529 | 31.74 |
| Sugar boilers: | | | | | |
| District No. 1..... | 8 | 98 | 56.0 | .695 | 38.92 |
| District No. 2..... | 4 | 51 | 51.8 | .722 | 37.44 |
| District No. 3..... | 7 | 49 | 53.5 | .594 | 31.78 |
| District No. 4..... | 2 | 27 | 48.0 | .835 | 40.08 |
| Total..... | 21 | 225 | 53.5 | .694 | 37.13 |
| Laborers: | | | | | |
| District No. 1..... | 8 | 1,553 | 61.5 | .479 | 29.46 |
| District No. 2..... | 4 | 678 | 61.6 | .445 | 27.41 |
| District No. 3..... | 7 | 1,254 | 61.4 | .243 | 14.92 |
| District No. 4..... | 2 | 471 | 48.0 | .580 | 27.84 |
| Total..... | 21 | 3,956 | 59.9 | .413 | 24.74 |

Average and Classified Earnings per Hour

TABLE 4 presents average earnings per hour and a percentage distribution by average earnings per hour of the wage earners in each occupation in the industry, and also in all occupations combined.

The 841 centrifugal tenders (the second occupation in the table) employed by the 21 refineries included in the study earned an average of 46.3 cents per hour. The earnings per hour of 6 per cent of them were within the classified group of 25 and under 27½ cents per hour. The earnings of the other wage earners in this occupation ranged by classified groups from 27½ and under 30 cents to 65 and under 70 cents per hour.

Approximately 11 per cent of all employees in all occupations combined earned an average of less than 25 cents per hour, while 4 per cent earned an average of 75 cents or more. The earnings of 85 per cent of the whole group fell within these extremes. The very wide range in earnings was due largely to variance in wage rates from one refinery to another, rather than to difference in earnings of wage earners in an occupation in the same plant, there usually being little difference in average earnings per hour of employees in an occupation within the same refinery.

TABLE 4.—AVERAGE HOURLY EARNINGS AND PER CENT EARNING EACH CLASSIFIED AMOUNT PER HOUR IN THE SUGAR-REFINING INDUSTRY, 1930, BY OCCUPATION AND SEX

| Occupation | Min- glers | Centrifugal tend- ers | Melt- ers | Pump- men | Blow- up tank- men | Filter press- men | Char- house labor- ers | Char- kilo fire- men | Liquor run- ners | Evap- orator tend- ers |
|---------------------------|---------------|-----------------------------|--------------|--------------|-----------------------------|-------------------------|---------------------------------|-------------------------------|------------------------|---------------------------------|
| Sex | M. | M. | M. | M. | M. | M. | M. | M. | M. | M. |
| Number of establishments | 19 | 21 | 21 | 19 | 21 | 21 | 21 | 21 | 21 | 20 |
| Number of employees | 49 | 841 | 94 | 90 | 77 | 268 | 507 | 138 | 79 | 65 |
| Average earnings per hour | \$0.434 | \$0.463 | \$0.461 | \$0.451 | \$0.444 | \$0.453 | \$0.442 | \$0.500 | \$0.529 | \$0.530 |

| Classification | Per cent earning each classified amount per hour | | | | | | | | | |
|------------------------|--|-----|----|----|----|-----|-----|----|----|----|
| 12 and under 13 cents | 2 | | | | | | | | | |
| 13 and under 14 cents | | | | | | | | | | |
| 14 and under 15 cents | | | 1 | | | | (1) | | | |
| 15 and under 16 cents | | | 2 | | | | 1 | | | |
| 16 and under 17 cents | | | 3 | | | | (1) | | | |
| 17 and under 18 cents | | | | | | | 2 | | | |
| 18 and under 19 cents | 10 | | | 2 | 10 | 1 | 4 | | | |
| 19 and under 20 cents | 2 | | 1 | | | (1) | | | | |
| 20 and under 21 cents | | | | 4 | | 1 | | 1 | | |
| 21 and under 22 cents | | | | 2 | 4 | 2 | 1 | | | |
| 22 and under 23 cents | | | | 6 | 3 | 4 | (1) | 1 | 3 | |
| 25 and under 27½ cents | | 6 | 2 | | 1 | 1 | 1 | 1 | 3 | |
| 27½ and under 30 cents | 4 | 3 | 1 | | 1 | 4 | 3 | | | |
| 30 and under 32½ cents | 4 | (1) | | | | 5 | | 2 | | 3 |
| 32½ and under 35 cents | | 1 | 4 | 2 | | 4 | 3 | | 3 | 3 |
| 35 and under 37½ cents | 6 | 8 | 4 | 1 | | 1 | 7 | | | |
| 37½ and under 40 cents | 2 | 8 | 5 | 7 | 9 | 4 | 3 | 3 | 3 | 6 |
| 40 and under 42½ cents | 2 | 2 | 3 | 3 | 3 | 1 | 2 | 6 | 3 | 5 |
| 42½ and under 45 cents | 2 | 3 | | | | 3 | 5 | | 3 | |
| 45 and under 47½ cents | 10 | 17 | 11 | 6 | 6 | 17 | 11 | 7 | 9 | 3 |
| 47½ and under 50 cents | 4 | 6 | 6 | 11 | 14 | 6 | 8 | 13 | 6 | 6 |
| 50 and under 55 cents | 33 | 29 | 37 | 33 | 32 | 28 | 36 | 33 | 27 | 37 |
| 55 and under 60 cents | 8 | 8 | 10 | 18 | 6 | 2 | 4 | 12 | 20 | 5 |
| 60 and under 65 cents | 10 | 8 | | | 5 | 15 | 9 | 12 | 6 | 11 |
| 65 and under 70 cents | | (1) | 4 | 4 | | 2 | | 4 | 3 | 5 |
| 70 and under 75 cents | | | 4 | | 4 | | | 3 | 5 | 9 |
| 75 and under 80 cents | | | | | | | | | 5 | 8 |
| 80 and under 85 cents | | | | | | | | | 4 | |

¹ Less than 1 per cent.

TABLE 4.—AVERAGE HOURLY EARNINGS AND PER CENT EARNING EACH CLASSIFIED AMOUNT PER HOUR IN THE SUGAR REFINING INDUSTRY, 1930, BY OCCUPATION AND SEX—Continued

| Occupation..... | Tank-men | Sugar boilers | Crystallizers and mixers | Granulators | Packers | | Weighers and checkers | Oilers | Laborers |
|--------------------------------|--|---------------|--------------------------|-------------|---------|---------|-----------------------|---------|----------|
| Sex..... | M. | M. | M. | M. | M. | F. | M. | M. | M. |
| Number of establishments..... | 19 | 21 | 21 | 21 | 21 | 18 | 21 | 21 | 21 |
| Number of employees..... | 118 | 225 | 108 | 68 | 1,323 | 780 | 355 | 183 | 3,956 |
| Average earnings per hour..... | \$0.461 | \$0.694 | \$0.447 | \$0.474 | \$0.440 | \$0.289 | \$0.504 | \$0.477 | \$0.413 |
| Classification | Per cent earning each classified amount per hour | | | | | | | | |
| 11 and under 12 cents..... | | | | | | 2 | | | (1) |
| 12 and under 13 cents..... | | | | | (1) | 7 | | | 1 |
| 13 and under 14 cents..... | | | | | | | | | 1 |
| 14 and under 15 cents..... | | | | | | | | | 5 |
| 15 and under 16 cents..... | 1 | | 3 | | 2 | (1) | | | 2 |
| 16 and under 17 cents..... | | | | | 1 | (1) | | | 2 |
| 17 and under 18 cents..... | 2 | | 1 | | 1 | | | | 2 |
| 18 and under 19 cents..... | 5 | | 4 | | 4 | | | | 1 |
| 19 and under 20 cents..... | | | 1 | | | | 1 | | (1) |
| 20 and under 21 cents..... | | | 1 | 3 | (1) | 9 | | 2 | 1 |
| 21 and under 22 cents..... | 2 | | | | | (1) | 3 | 3 | 1 |
| 22 and under 23 cents..... | | | 1 | 1 | (1) | 14 | (1) | 4 | 1 |
| 23 and under 24 cents..... | | | | | (1) | | | | (1) |
| 24 and under 25 cents..... | | | | | 1 | 5 | 1 | 1 | (1) |
| 25 and under 27½ cents..... | | | 2 | | 1 | 5 | 3 | 3 | 1 |
| 27½ and under 30 cents..... | | | 3 | 4 | 2 | 8 | | 1 | 2 |
| 30 and under 32½ cents..... | 6 | | | | 5 | 13 | 2 | | 7 |
| 32½ and under 35 cents..... | | | 5 | | 3 | 7 | 1 | 2 | 5 |
| 35 and under 37½ cents..... | 6 | | 4 | 1 | 6 | 7 | 4 | 1 | 5 |
| 37½ and under 40 cents..... | 3 | | 7 | 7 | 3 | 7 | 4 | 5 | 2 |
| 40 and under 42½ cents..... | | | | 4 | 6 | 3 | 4 | 7 | 9 |
| 42½ and under 45 cents..... | 2 | | 3 | 1 | 4 | 3 | 7 | 1 | 4 |
| 45 and under 47½ cents..... | 14 | | 8 | 15 | 8 | 4 | 9 | 2 | 8 |
| 47½ and under 50 cents..... | 3 | 2 | 6 | 13 | 5 | 3 | 1 | 4 | 6 |
| 50 and under 55 cents..... | 32 | 8 | 35 | 31 | 36 | (1) | 21 | 34 | 28 |
| 55 and under 60 cents..... | 17 | 12 | 11 | 7 | 7 | | 8 | 17 | 4 |
| 60 and under 65 cents..... | 7 | 20 | 6 | 10 | 4 | | 16 | 5 | 4 |
| 65 and under 70 cents..... | 1 | 7 | | | 1 | | 8 | 6 | 1 |
| 70 and under 75 cents..... | | 9 | | | (1) | | 3 | 2 | |
| 75 and under 80 cents..... | | 15 | | | | | 3 | | |
| 80 and under 85 cents..... | | 13 | | | | | 2 | | |
| 85 and under 90 cents..... | | 3 | | | | | | | |
| 90 and under 95 cents..... | | 5 | | | | | | | |
| 95 and under 100 cents..... | | 3 | | | | | | | |
| 100 and under 110 cents..... | | 1 | | | | | | | |

¹ Less than 1 per cent.

TABLE 4.—AVERAGE HOURLY EARNINGS AND PER CENT EARNING EACH CLASSIFIED AMOUNT PER HOUR IN THE SUGAR-REFINING INDUSTRY, 1930, BY OCCUPATION AND SEX—Continued

| Occupation..... | Boiler-makers | Elec-tricians | Eleva-tor men | Pipe-fitters | Other employ-ees | | All employees | | |
|--------------------------------|--|---------------|---------------|--------------|------------------|---------|---------------|---------|---------|
| Sex..... | M. | M. | M. | M. | M. | F. | M. | F. | Total |
| Number of establishments..... | 10 | 20 | 18 | 19 | 21 | 14 | 21 | 19 | 21 |
| Number of employees..... | 37 | 145 | 69 | 99 | 2,133 | 83 | 11,027 | 863 | 11,890 |
| Average earnings per hour..... | \$0.682 | \$0.657 | \$0.469 | \$0.663 | \$0.556 | \$0.290 | \$0.472 | \$0.289 | \$0.461 |
| Classification | Per cent earning each classified amount per hour | | | | | | | | |
| 8 and under 9 cents..... | | | | | (1) | | (1) | | (1) |
| 11 and under 12 cents..... | | | | | | | | 1 | (1) |
| 12 and under 13 cents..... | | | | | | 1 | (1) | (1) | (1) |
| 13 and under 14 cents..... | | | | | (1) | 5 | | 7 | 1 |
| 14 and under 15 cents..... | | | | | (1) | | (1) | | (1) |
| 15 and under 16 cents..... | | | | | (1) | 1 | 2 | (1) | 2 |
| 16 and under 17 cents..... | | | | | (1) | 12 | 1 | 1 | 1 |
| 17 and under 18 cents..... | | | | | (1) | | 1 | | 1 |
| 18 and under 19 cents..... | | | | | 1 | 1 | 2 | (1) | 2 |
| 19 and under 20 cents..... | | | | | (1) | | (1) | 1 | (1) |
| 20 and under 21 cents..... | | | | | 2 | 5 | 1 | 9 | 1 |
| 21 and under 22 cents..... | | | | | (1) | | 1 | (1) | 1 |
| 22 and under 23 cents..... | | | | | 2 | 5 | 1 | 13 | 2 |
| 23 and under 24 cents..... | | 1 | 1 | | (1) | | (1) | | (1) |
| 24 and under 25 cents..... | | | | | (1) | | (1) | 5 | (1) |
| 25 and under 27½ cents..... | | 1 | 1 | | 1 | 8 | 1 | 5 | 2 |
| 27½ and under 30 cents..... | | 2 | 3 | | 1 | 18 | 2 | 9 | 2 |
| 30 and under 32½ cents..... | | | 3 | 2 | 2 | 6 | 4 | 12 | 5 |
| 32½ and under 35 cents..... | | 1 | 1 | 1 | 2 | 7 | 3 | 7 | 3 |
| 35 and under 37½ cents..... | | | | 1 | 1 | 2 | 4 | 6 | 4 |
| 37½ and under 40 cents..... | | | 7 | | 1 | 8 | 3 | 7 | 3 |
| 40 and under 42½ cents..... | | 1 | 6 | | 5 | 6 | 6 | 3 | 5 |
| 42½ and under 45 cents..... | | 1 | 6 | 2 | 2 | 5 | 3 | 4 | 3 |
| 45 and under 47½ cents..... | 3 | 1 | 7 | | 3 | 2 | 8 | 4 | 7 |
| 47½ and under 50 cents..... | | | 14 | | 3 | | 5 | 3 | 5 |
| 50 and under 55 cents..... | 11 | 1 | 41 | 4 | 18 | 2 | 27 | (1) | 25 |
| 55 and under 60 cents..... | 8 | 14 | 9 | 17 | 12 | 2 | 8 | (1) | 7 |
| 60 and under 65 cents..... | 8 | 21 | | 11 | 11 | 1 | 7 | (1) | 7 |
| 65 and under 70 cents..... | 22 | 16 | | 21 | 9 | | 3 | | 3 |
| 70 and under 75 cents..... | 5 | 12 | | 18 | 7 | | 2 | | 2 |
| 75 and under 80 cents..... | 8 | 8 | | 3 | 4 | | 1 | | 1 |
| 80 and under 85 cents..... | 32 | 7 | | 14 | 6 | | 2 | | 2 |
| 85 and under 90 cents..... | 3 | 11 | | 3 | 2 | | 1 | | 1 |
| 90 and under 95 cents..... | | 2 | | | 1 | | (1) | | (1) |
| 95 and under 100 cents..... | | | | 2 | 1 | | (1) | | (1) |
| 100 and under 110 cents..... | | | | | (1) | | (1) | | (1) |
| 110 and under 120 cents..... | | | | | (1) | | (1) | | (1) |
| 140 and under 150 cents..... | | | | | (1) | | (1) | | (1) |
| 170 and under 180 cents..... | | | | | (1) | | (1) | | (1) |

¹ Less than 1 per cent.

Recent Changes in Wages and Hours of Labor

INFORMATION received by the bureau regarding recent wage changes is presented below in two distinct groups: Part 1 relates to manufacturing establishments that report monthly figures regarding volume of employment, while part 2 presents data obtained from new trade agreements and other miscellaneous sources. Although the effort is made, it is not always possible to avoid duplication of data as between parts 1 and 2.

Part 1. Wage Changes in Manufacturing Industries

THREE establishments in three manufacturing industries reported wage-rate increases during the month ending December 15. These increases averaged 22.4 per cent and affected 83 people, or 17 per cent of all employees in the establishments concerned.

Fifty-seven establishments in 21 manufacturing industries reported wage-rate decreases during the same period. These decreases averaged 9.3 per cent and affected 6,319 employees, or 87 per cent of all employees in the establishments concerned.

WAGE ADJUSTMENTS OCCURRING BETWEEN NOVEMBER 15 AND DECEMBER 15, 1930

| Industry | Establishments | | Per cent of increase or decrease in wage rate | | Employees affected | | |
|---|------------------------|---|---|---------|--------------------|--|---------------------------------|
| | Total number reporting | Number reporting increase or decrease in wage rates | Range | Average | Total number | Per cent of employees— | |
| | | | | | | In establishments reporting increase or decrease in wage rates | In all establishments reporting |
| | | | Increases | | | | |
| Silk goods..... | 267 | 1 | 15.0 | 15.0 | 10 | 6 | (1) |
| Dyeing and finishing textiles..... | 117 | 1 | 16.0 | 16.0 | 13 | 5 | (1) |
| Glass..... | 141 | 1 | 25.0 | 25.0 | 60 | 80 | (1) |
| | | | Decreases | | | | |
| Ice cream..... | 342 | 1 | 10.0 | 10.0 | 14 | 100 | (1) |
| Baking..... | 719 | 3 | 10.0-30.0 | 23.4 | 38 | 22 | (1) |
| Cotton goods..... | 450 | 5 | 10.0-15.0 | 11.6 | 1,637 | 100 | 1 |
| Hosiery and knit goods..... | 366 | 1 | 20.0 | 20.0 | 1,015 | 100 | 1 |
| Silk goods..... | 267 | 1 | 15.0 | 15.0 | 10 | 7 | (1) |
| Clothing, men's..... | 346 | 1 | 15.0 | 15.0 | 47 | 84 | (1) |
| Clothing, women's..... | 412 | 2 | 5.0-25.0 | 12.7 | 185 | 87 | 1 |
| Structural ironwork..... | 175 | 4 | 10.0-20.0 | 10.2 | 173 | 54 | 1 |
| Foundry and machine-shop products..... | 1,081 | 5 | 5.0-20.0 | 10.2 | 238 | 78 | (1) |
| Steam fittings and steam and hot-water heating apparatus..... | 109 | 1 | 10.0 | 10.0 | 18 | 48 | (1) |
| Stoves..... | 138 | 1 | 10.0 | 10.0 | 100 | 80 | 1 |
| Lumber, sawmills..... | 590 | 4 | 10.0 | 10.0 | 657 | 95 | 1 |
| Lumber, millwork..... | 316 | 3 | 10.0 | 10.0 | 25 | 100 | (1) |
| Boots and shoes..... | 313 | 7 | 10.0-13.0 | 10.9 | 1,232 | 88 | 1 |
| Paper boxes..... | 310 | 3 | 10.0 | 10.0 | 130 | 50 | 1 |
| Printing, newspapers..... | 418 | 1 | 5.0 | 5.0 | 140 | 88 | (1) |
| Brick, tile, and terra cotta..... | 686 | 10 | 2.0-20.0 | 9.0 | 578 | 96 | 2 |
| Brass, bronze, and copper products..... | 161 | 1 | 16.0 | 16.0 | 5 | 50 | (1) |
| Agricultural implements..... | 84 | 1 | 10.0 | 10.0 | 38 | 100 | (1) |
| Electrical machinery, apparatus, and supplies..... | 207 | 1 | 10.0 | 10.0 | 18 | 100 | (1) |
| Rubber goods other than boots, shoes, tires, and inner tubes..... | 75 | 1 | 10.0 | 10.0 | 21 | 100 | (1) |

¹ Less than one-half of 1 per cent.

Part 2. Wage Changes Reported by Trade-Unions Since October, 1930

REPORTS from trade-unions, municipalities, etc., in the United States since October for which wage or hour changes have become effective are shown in the following table for 20,574 workers, of which 881 are reported to have adopted the 5-day week. There were in addition to this number a group of 4,000 municipal workers placed on a 32-hour or 4-day week in order to give employment to a greater number of workers.

The following increases in wages were reported: Building trades, from 2½ to 20 cents per hour, the majority being under 7 cents; print-

ing trades, \$1 to \$2 per week; railway workers, 3 to 8 cents per hour; barbers in New York City, \$5 per week; and municipal clerks and typists, Butte County, Calif., \$10 to \$25 per month.

A decrease in wages of 12½ per cent was reported for shoe workers in St. Louis.

RECENT UNION WAGE CHANGES, BY INDUSTRY, OCCUPATION, AND LOCALITY,
OCTOBER, 1930, TO JANUARY, 1931

| Industry, occupation, and locality | Date of change | Rate of wages | | Hours per week | |
|--|----------------|--------------------------------|--------------------------------|------------------|------------------|
| | | Before change | After change | Before change | After change |
| Barbers, New York, N. Y.----- | Jan. 1 | <i>Per week</i> 1 \$25. 00 | <i>Per week</i> 2 \$30. 00 | 3 12 | 3 12 |
| Building trades: | | | | | |
| Carpenters— | | <i>Per hour</i> | <i>Per hour</i> | | |
| Scranton, Pa.----- | do. | \$1. 18½ | \$1. 25 | 44 | 44 |
| Syracuse, N. Y.----- | do. | 1. 20 | 1. 32 | 48 | 44 |
| Williamsport, Pa., millmen----- | Nov. 1 | .50-. 65 | . 70 | 54 | 48 |
| Cement finishers, Kansas City, Mo.----- | Jan. 1 | 1. 31¼ | 1. 37½ | 40 | 40 |
| Electrical workers— | | | | | |
| Dubuque, Iowa----- | do. | . 97½ | 1. 00 | 44 | 44 |
| Rochester, N. Y.----- | do. | 1. 37½ | 1. 44¾ | 40 | 40 |
| Lathers, Kansas City, Mo.----- | do. | 1. 43¾ | 1. 50 | 40 | 40 |
| Painters, decorators, and paperhangers— | | | | | |
| Philadelphia, Pa.----- | do. | 1. 07½ | 1. 12½ | 44 | 44 |
| Syracuse, N. Y.----- | do. | 1. 15 | 1. 25 | 44 | 40 |
| Plasterers, Syracuse, N. Y.----- | do. | 1. 50 | 1. 65 | 48 | 44 |
| Plumbers and steamfitters, Oklahoma City, Okla.----- | do. | 1. 25 | 1. 25 | 44 | 40 |
| Clothing: Shoe workers, St. Louis, Mo.----- | Dec. 15 | (⁴) | (⁴) | 48 | 48 |
| Furniture: | | | | | |
| Carpet sewers and layers, linoleum and tile layers— | | <i>Per week</i> | <i>Per week</i> | | |
| Brooklyn, N. Y.----- | Jan. 5 | \$66. 00 | \$66. 00 | 44 | 40 |
| San Francisco, Calif., and Bay region----- | Nov. 3 | (⁴) | (⁴) | 44 | 7 40 |
| Layers of all floor coverings, Washington, D. C.----- | Oct. 6 | 55. 00 | 55. 00 | 44 | 40 |
| Printing trades: | | | | | |
| Compositors— | | | | | |
| Cincinnati, Ohio 7— | | | | | |
| Newspaper, day----- | Dec. 13 | 55. 25 | 46. 04 | 45 | 37½ |
| Newspaper, night----- | do. | 59. 00 | 49. 17 | 45 | 37½ |
| Job work, day----- | do. | 52. 00 | 42. 55 | 44 | 36 |
| Job work, night----- | do. | 55. 00 | 45. 00 | 44 | 36 |
| New York, N. Y.— | | | | | |
| Job work, day----- | Jan. 1 | 58. 00 | 59. 00 | 44 | 44 |
| Job work, night----- | do. | 61. 00 | 62. 00 | 40 | 40 |
| Job work, midnight----- | do. | 64. 00 | 65. 00 | 35 | 35 |
| Electrotype foundrymen, New York, N. Y.----- | Oct. 1 | 64. 00 | 66. 00 | 44 | 44 |
| Paper handlers and sheet straighteners, New York, N. Y.— | | | | | |
| Newspaper, day----- | Jan. 1 | 41. 00 | 42. 00 | 48 | 48 |
| Newspaper, night----- | do. | 43. 00 | 41. 00 | 41 | 41 |
| Job work, day----- | do. | 39. 00-43. 00 | 40. 00-44. 00 | 44 | 44 |
| Job work, night----- | do. | 42. 00-46. 00 | 43. 00-47. 00 | 40 | 40 |
| Printing press assistants, New York, N. Y.— | | | | | |
| Job work, day----- | do. | 46. 50-52. 00 | 47. 50-53. 00 | 44 | 44 |
| Job work, night----- | do. | 49. 50-55. 00 | 50. 50-56. 00 | 40 | 40 |
| Printing pressmen, New York, N. Y.— | | | | | |
| Job work, day----- | do. | 49. 00-69. 00 | 50. 00-70. 00 | 44 | 44 |
| Job work, night----- | do. | 52. 00-72. 00 | 53. 00-73. 00 | 40 | 40 |
| Stereotypers, Pittsburgh, Pa.— | | | | | |
| Day work----- | do. | 50. 00 | 51. 50 | 48 | 48 |
| Night work----- | do. | 53. 00 | 54. 50 | 48 | 48 |
| Railway workers: | | | | | |
| Signalmen, Houston Belt & Terminal Railway Co.— | | <i>Per hour</i> | <i>Per hour</i> | | |
| Leading signalmen----- | Nov. 1 | \$0. 75 | \$0. 83 | (⁶) | (⁶) |
| Signalmen----- | do. | . 71 | . 78 | (⁶) | (⁶) |
| Assistant signalmen----- | do. | (⁶) | . 54-. 68 | (⁶) | (⁶) |
| Helpers----- | do. | . 48 | . 51 | (⁶) | (⁶) |
| Municipal workers: | | | | | |
| Butte County, Calif., clerks and typists----- | Jan. 1 | <i>Per month</i> \$75-\$125 | <i>Per month</i> \$85-\$150 | 42 | 42 |
| State of Ohio, road maintenance employees----- | Nov. 15 | (⁴) | (⁴) | 40 | 7 32 |

¹ And 50 per cent of receipts over \$40.

² And 50 per cent of receipts over \$45.

³ Per day.

⁴ Piecework.

⁵ 12½ per cent reduction.

⁶ Not reported.

⁷ Emergency measure.

Index Numbers of Wages per Hour, 1840 to 1929

THE Bureau of Labor Statistics here presents a general index of wages per hour, for which frequent requests have been made. It shows the trend of hourly wage rates, or earnings, 1840 to 1929, for wage earners in industry as a whole. Such an index was prepared by the bureau in 1921, covering the period 1840 to 1920, and was later extended to 1926. The figures are here brought down to 1929.

These index numbers are based on such information as afforded comparisons through a series of years. No one series of directly comparable data extends through the entire period, although many trades and industries are continuously represented in the table. Agricultural wages are not included in the indexes given in Table 1 but are presented separately in Table 2; this separation was made because of the seasonal character of the industry, the wide differences in methods of hiring, and the perquisites so often forming a part of the farm wages.

The figures of the table indicate the change in earnings per hour when wage workers were actually at work, with 1913 as the base year. During the period, regular full-time working hours have been greatly reduced, hence the figures do not apply to full-time earnings per day or per week. Further, they do not reflect actual earnings in periods of broken time or unemployment.

TABLE 1.—INDEX NUMBERS OF WAGES PER HOUR, 1840 TO 1929 (EXCLUSIVE OF AGRICULTURE)

[On currency basis during Civil War period. 1913=100]

| Year | Index number | Year | Index number | Year | Index number | Year | Index number |
|-----------|--------------|-----------|--------------|-----------|--------------|-----------|------------------|
| 1840..... | 33 | 1863..... | 44 | 1886..... | 64 | 1909..... | 90 |
| 1841..... | 34 | 1864..... | 50 | 1887..... | 67 | 1910..... | 93 |
| 1842..... | 33 | 1865..... | 58 | 1888..... | 67 | 1911..... | 95 |
| 1843..... | 33 | 1866..... | 61 | 1889..... | 68 | 1912..... | 97 |
| 1844..... | 32 | 1867..... | 63 | 1890..... | 69 | 1913..... | 100 |
| 1845..... | 33 | 1868..... | 65 | 1891..... | 69 | 1914..... | 102 |
| 1846..... | 34 | 1869..... | 66 | 1892..... | 69 | 1915..... | 103 |
| 1847..... | 34 | 1870..... | 67 | 1893..... | 69 | 1916..... | 111 |
| 1848..... | 35 | 1871..... | 68 | 1894..... | 67 | 1917..... | 128 |
| 1849..... | 36 | 1872..... | 69 | 1895..... | 68 | 1918..... | 162 |
| 1850..... | 35 | 1873..... | 69 | 1896..... | 69 | 1919..... | 184 |
| 1851..... | 34 | 1874..... | 67 | 1897..... | 69 | 1920..... | 234 |
| 1852..... | 35 | 1875..... | 67 | 1898..... | 69 | 1921..... | 218 |
| 1853..... | 35 | 1876..... | 64 | 1899..... | 70 | 1922..... | 208 |
| 1854..... | 37 | 1877..... | 61 | 1900..... | 73 | 1923..... | 217 |
| 1855..... | 38 | 1878..... | 60 | 1901..... | 74 | 1924..... | 223 |
| 1856..... | 39 | 1879..... | 59 | 1902..... | 77 | 1925..... | 226 |
| 1857..... | 40 | 1880..... | 60 | 1903..... | 80 | 1926..... | 229 |
| 1858..... | 39 | 1881..... | 62 | 1904..... | 80 | 1927..... | 231 |
| 1859..... | 39 | 1882..... | 63 | 1905..... | 82 | 1928..... | 232 |
| 1860..... | 39 | 1883..... | 64 | 1906..... | 85 | 1929..... | ¹ 233 |
| 1861..... | 40 | 1884..... | 64 | 1907..... | 89 | | |
| 1862..... | 41 | 1885..... | 64 | 1908..... | 89 | | |

¹ Subject to revision.

Certain points stand out conspicuously in this index:

First, the general trend of hourly earnings is upward. It will be observed that the hourly wage increased sevenfold in the 90-year period.

Further, it will be observed that our two great wars were accompanied by radical wage increases. From 1840 to 1861 the increase was but 21 per cent, while from 1861 to 1865 the increase was 45 per cent. After the Civil War wage rates continued to increase each

year until 1872, when wages per hour were 72 per cent higher than in 1861. A similar tendency was evident during the World War period. From 1914 to 1919 wages per hour in the United States increased 80 per cent in the grand average. The increase continued on into 1920, when the wage level was 129 per cent higher than in 1914 and 134 per cent above 1913, the base year of the index.

The year 1921 was one of depression and unemployment, with many wage rate decreases. The level was lower in 1921 than in 1920 and still lower in 1922. Following 1922 each year saw an increase in the general wage level until in 1929 wages per hour were but a fraction of 1 per cent lower than in 1920.

It must not be understood that all occupations and industries had wage changes in the same degree, nor in certain years even in the same direction. The building trades collectively had a higher wage per hour in 1921 than in 1920, with a small drop in 1922, and then an increase each year until 1929. The same is true in substance for the printing trades, the bakery trades, and several other trades. On the other hand, the textile industries had a very material reduction in earnings per hour between 1920 and 1929. The shoe industry had some decrease in that period, as did also the lumber industry. The hosiery industry had an increase between 1920 and 1929. Wages in the iron and steel industry fell off, while both the automobile and railroad industries had an increase in wages. However, when all these and other industries brought into the index are blended together the index in 1929 was almost as high as in 1920, the peak year; 12 per cent higher than in 1922; 133 per cent higher than in 1913; and seven times as high as in 1840.

Index Numbers of Agricultural Wages

The Department of Agriculture collects farm wage rates and computes index numbers therefor, with 1910-1914 as the base or 100. These figures are available back to 1866 from publications of that department. For comparison with other index numbers in this article these index numbers of farm wages are converted to a 1913 basis.

TABLE 2.—INDEX NUMBERS OF FARM WAGE RATES, 1866 to 1929
[Years 1866 to 1878 on gold basis]

| Year | Index numbers of farm wage rates on basis of— | | Year | Index numbers of farm wage rates on basis of— | | Year | Index numbers of farm wage rates on basis of— | |
|-------------------|---|------------|-----------|---|------------|-----------|---|------------|
| | Average, 1910-1914 = 100 | 1913 = 100 | | Average, 1910-1914 = 100 | 1913 = 100 | | Average, 1910-1914 = 100 | 1913 = 100 |
| 1866..... | 55 | 53 | 1895..... | 62 | 60 | 1917..... | 140 | 135 |
| 1869..... | 54 | 52 | 1898..... | 65 | 63 | 1918..... | 176 | 169 |
| 1874 or 1875..... | 59 | 57 | 1899..... | 68 | 65 | 1919..... | 206 | 198 |
| 1877 or 1879..... | 56 | 54 | 1902..... | 76 | 73 | 1920..... | 239 | 230 |
| 1879 or 1880..... | 59 | 57 | 1906..... | 92 | 88 | 1921..... | 150 | 144 |
| 1880 or 1881..... | 62 | 60 | 1909..... | 96 | 92 | 1922..... | 146 | 140 |
| 1881 or 1882..... | 65 | 63 | 1910..... | 97 | 93 | 1923..... | 166 | 160 |
| 1884 or 1885..... | 65 | 63 | 1911..... | 97 | 93 | 1924..... | 166 | 160 |
| 1887 or 1888..... | 66 | 63 | 1912..... | 101 | 97 | 1925..... | 168 | 162 |
| 1889 or 1890..... | 66 | 63 | 1913..... | 104 | 100 | 1926..... | 171 | 164 |
| 1891 or 1892..... | 67 | 64 | 1914..... | 101 | 97 | 1927..... | 170 | 163 |
| 1893..... | 67 | 64 | 1915..... | 102 | 98 | 1928..... | 169 | 162 |
| 1894..... | 61 | 59 | 1916..... | 112 | 108 | 1929..... | 170 | 163 |

Trend of Real Wages per Hour, 1913 to 1929

THE general trend of wages per hour, 1840 to 1929, was given in the article immediately preceding. Such figures relate to the money received per hour by the wage earner as compensation for his work. Most of the money received, however, very soon leaves his pocket as he pays it out for the necessities of life. The real measure of his wage, therefore, is not his money income, but what he is able to buy with it. If his wage changes and his cost of living changes in the same direction and to the same extent, then his economic condition remains unchanged. The change in cost of living in the United States is shown in an article on page 212.

The two index numbers referred to, namely, those relating to wages per hour and those relating to cost of living, are here brought together and from them a third index number is computed showing the change from 1913 to 1929 in the worker's "real wage."

Taking 1913 as the basis of comparison, it is seen in the table below that in 1917 money wages were 28 per cent higher than in 1913 while cost of living was 42.4 per cent higher. In other words, the cost of living went up faster between 1913 and 1917 than did hourly wages. The purchasing power of wages, the "real wages," of the wage earner, therefore, declined so that he could purchase only 89.9 per cent as much with his wages as he did in 1913. That year shows the lowest point in real wages in the period.

In 1921 both hourly wages and cost of living declined with the industrial depression but the decrease in cost of living was greater in proportion and the wage earner who had a job that year had a real wage 23.0 per cent higher than in 1913. After 1917 the purchasing power of wages per hour steadily increased except in the year 1925. In 1929 the wage earner was able to purchase 36.4 per cent more with his money wage than in 1913, and to that extent he was able to increase his standard of living.

INDEX NUMBERS OF WAGES PER HOUR, COST OF LIVING, AND REAL WAGES

| Year | Index numbers of— | | | Year | Index numbers of— | | |
|-----------|-------------------|----------------|------------|-----------|-------------------|----------------|------------|
| | Wages per hour | Cost of living | Real wages | | Wages per hour | Cost of living | Real wages |
| 1913..... | 100 | 100.0 | 100.0 | 1922..... | 208 | 167.3 | 124.3 |
| 1914..... | 102 | 103.0 | 99.0 | 1923..... | 217 | 171.0 | 126.9 |
| 1915..... | 103 | 105.1 | 98.0 | 1924..... | 223 | 170.7 | 130.6 |
| 1916..... | 111 | 118.3 | 93.8 | 1925..... | 226 | 175.7 | 128.6 |
| 1917..... | 128 | 142.4 | 89.9 | 1926..... | 229 | 175.2 | 130.7 |
| 1918..... | 162 | 174.4 | 92.9 | 1927..... | 231 | 172.7 | 133.8 |
| 1919..... | 184 | 188.3 | 97.7 | 1928..... | 232 | 170.7 | 135.9 |
| 1920..... | 234 | 208.5 | 112.2 | 1929..... | 233 | 170.8 | 136.4 |
| 1921..... | 218 | 177.3 | 123.0 | | | | |

Earnings of Office Workers in New York State Factories in October, 1930

SINCE 1914 the New York Department of Labor has been collecting data on the earnings of office workers in New York State factories for the month of October. The tabulation for October, 1930, shows that the average weekly earnings in that month—\$37.48—

were the highest recorded since this study of office workers' earnings was initiated. The details of the report for October, 1930, as given in the Industrial Bulletin for November, 1930, issued by the State industrial commissioner, are reproduced below:

Average weekly earnings for factory office workers stood in October, 1930, at \$37.48. This is the highest figure recorded since the study of office workers' earnings was begun in 1914 and represents a gain of 54 cents over October, 1929. The average earnings of all factory employees over the same year decreased by more than \$2.

These statements are based upon reports of office forces and pay rolls submitted regularly by firms on the fixed list for the monthly Labor Market analysis. The tabulation of factory office earnings is made each October and includes only office help within the manufacturing plant. The increase shown in these earnings this year illustrates well a statement made in the Industrial Bulletin in November, 1925: "A year to year comparison shows a gradual but steady increase (in average earnings) among these workers as compared with the wage fluctuations reported for factory people who are largely time workers with hours changing with business conditions." Since the firms do not report as to the kind of work done by their office people, it is impossible to judge how much of the rise in average earnings is caused by an actual increase in wage rates and how much is due to an increase in the proportion of the more skilled technical workers.

As is indicated in the note to the accompanying table, the employees represented in this tabulation are chiefly office clerks, stenographers, bookkeepers, accountants, cashiers, stock clerks, office managers, superintendents, etc. High-salaried officials are not knowingly included. There is inevitable, nevertheless, a wide variation in the distribution of the different types of workers among the industries, which makes it unwise to attempt to draw conclusions about salaries in these industries from the differences which appear in averages.

Only two groups of industries failed to show an increase in office workers' earnings—wood manufactures and clothing. The increase of \$2.60 shown in textile firms was caused by the report of a large firm whose report was not included last year. Other industries to show large gains for the year were printing and paper goods manufacture and furs, leather, and rubber goods.

The tabulation of the separate earnings of office men and women (which is not on a fixed list basis and is therefore not comparable with the tabulation of total office workers' earnings) shows that office men were still earning approximately twice as much as office women in every industry. The average earnings for men continued to range between \$40 and \$60, those for women between \$20 and \$30. This may be due partly to the fact that more of the positions requiring experience, executive ability, or technical skill were held by men. Men's earnings had increased in every industry except furs, leather, and rubber goods, the largest increase occurring in printing and paper goods firms. Women's earnings, however, had increased in only three industrial divisions—stone, clay, and glass; printing and paper goods; clothing and millinery.

Women working in New York City received an average wage of from \$2 to \$10 greater than up-State office women. In a few industries men received higher salaries up State than in New York City. This may be due to a greater preponderance of male clerical help, etc., in the city.

In all industries, with the possible exception of the public-utility group, factory office workers were earning more than shop workers. A glance over the year's reports shows further that their work was more steady and that their regular working hours were generally shorter.

TABLE 1.—AVERAGE WEEKLY EARNINGS OF OFFICE EMPLOYEES IN REPRESENTATIVE NEW YORK STATE FACTORIES IN OCTOBER OF EACH YEAR, 1921 TO 1930

[The employees represented in this table are those who appear on factory office pay rolls, such as office clerks, stenographers, bookkeepers, accountants, cashiers, stock clerks, office managers, superintendents, etc.]

| Industry group | 1921 | 1922 | 1923 | 1924 | 1925 | 1926 | 1927 | 1928 | 1929 | 1930 |
|--------------------------------------|------------------|------------------|---------|---------|---------|---------|---------|---------|---------|---------|
| Stone, clay, and glass..... | \$29.65 | \$29.95 | \$30.35 | \$32.65 | \$32.78 | \$34.06 | \$34.40 | \$35.10 | \$34.70 | \$35.52 |
| Metals and machinery..... | 32.83 | 32.08 | 33.36 | 34.63 | 35.75 | 36.31 | 36.88 | 37.63 | 37.72 | 38.29 |
| Wood manufactures..... | 33.77 | 33.62 | 34.29 | 35.06 | 36.94 | 39.19 | 39.52 | 37.22 | 37.56 | 36.74 |
| Furs, leather, and rubber goods..... | 27.33 | 28.22 | 28.92 | 29.41 | 28.75 | 29.64 | 29.62 | 29.82 | 29.34 | 30.58 |
| Chemicals, oils, paints, etc..... | 26.02 | 26.43 | 27.83 | 28.80 | 29.45 | 31.10 | 32.64 | 33.38 | 34.07 | 34.74 |
| Printing and paper goods..... | 34.20 | 34.24 | 36.41 | 37.48 | 38.90 | 39.91 | 40.49 | 41.37 | 42.68 | 43.94 |
| Textiles..... | 26.54 | 26.87 | 28.08 | 28.83 | 29.36 | 29.95 | 29.85 | 30.81 | 30.87 | 33.47 |
| Clothing and millinery..... | 28.52 | 28.62 | 29.68 | 30.29 | 30.92 | 31.41 | 31.45 | 31.82 | 33.30 | 32.60 |
| Food and tobacco..... | 32.27 | 32.19 | 33.98 | 34.31 | 34.86 | 35.86 | 35.86 | 35.03 | 36.04 | 36.49 |
| Water, light, and power..... | (¹) | (¹) | 30.38 | 31.97 | 32.78 | 32.53 | 31.79 | 31.60 | 30.77 | 33.01 |
| Total..... | 31.27 | 31.20 | 32.56 | 33.58 | 34.49 | 35.38 | 35.88 | 36.37 | 36.94 | 37.48 |

¹ Separate earnings not computed because of small number of employees.

A comparison of the average weekly earnings of men and of women in factory offices in New York State in October, 1930, is given in Table 2, reproduced from the Industrial Bulletin.

TABLE 2.—AVERAGE WEEKLY EARNINGS OF MEN AND WOMEN IN NEW YORK STATE FACTORY OFFICES, OCTOBER, 1930

[Tabulation of office men and women not on fixed list basis as in case of main tabulation]

| Industry group | Men | | | Women | | |
|--------------------------------------|------------------|------------------|------------------|------------------|------------------|------------------|
| | Total State | New York City | Up-State | Total State | New York City | Up-State |
| Stone, clay, and glass..... | (¹) | (¹) | (¹) | (¹) | (¹) | (¹) |
| Metals and machinery..... | \$47.28 | \$48.03 | \$47.12 | \$23.00 | \$25.49 | \$22.34 |
| Wood manufactures..... | 52.31 | 46.74 | 54.93 | 23.87 | 27.83 | 22.60 |
| Furs, leather, and rubber goods..... | 45.78 | 46.63 | 44.47 | 22.77 | 27.10 | 18.78 |
| Chemicals, oils, paints, etc..... | 50.05 | 46.43 | 51.58 | 22.45 | 23.68 | 21.94 |
| Pulp and paper..... | (¹) | (¹) | (¹) | (¹) | (¹) | (¹) |
| Printing and paper goods..... | 59.43 | 64.90 | 49.55 | 26.67 | 28.44 | 24.07 |
| Textiles..... | 43.90 | 40.84 | 44.85 | 23.46 | 24.35 | 23.16 |
| Clothing and millinery..... | 47.49 | 48.64 | 44.70 | 27.66 | 30.41 | 20.39 |
| Food and tobacco..... | 45.74 | 48.51 | 41.83 | 25.13 | 26.74 | 23.85 |
| Water, light, and power..... | (¹) | (¹) | (¹) | (¹) | (¹) | (¹) |
| Total..... | 49.34 | 52.80 | 47.45 | 24.42 | 27.57 | 22.37 |

¹ Separate earnings not computed because of small number of employees.

Wages and Labor Conditions in the Fiji Islands

SPECIAL Circular No. 221 of the division of regional information of the United States Bureau of Foreign and Domestic Commerce, dated January 3, 1931, contains the following information on wages and labor conditions in the Fiji Islands.

According to the Fiji Blue Book for 1929, the following daily rates of wages were paid in 1928: In the sugar industry, \$3.50 to Europeans and 60 cents to Asiatics; in general agriculture, from 60 cents to 75 cents; in industrial establishments, \$2.40 to \$6.25 for skilled workers, 85 cents to \$2.40 for semiskilled workers, and 55 cents for unskilled workers; in sawmills, \$4.30 to Europeans and 70 cents to natives. The monthly wage of laborers in general agriculture was \$9.75, with board and lodging.

The circular states that a skilled cook is paid as much as \$29 to \$34 a month with food, while unskilled servants can usually be hired for from \$12 to \$14.50 per month, with food. It is said that East Indians are usually employed as domestic servants, white servants rarely being employed except sometimes in Suva as children's nurses.

The High Commissioner of Fiji has explained the labor situation as follows: "Generally speaking, the natives as the landlords of the colony are so well off there is little inducement for them to take a direct active interest in agricultural pursuits. For instance, in the Mba Province (the sugar center) the people are rapidly ceasing to be agriculturists, because of the fact that they derive a considerable income from the rent of their lands." It is therefore necessary to import agricultural laborers. As early as 1879 the first East Indian coolies were brought to the colonies on the indenture system for a period of 10 years, during 5 of which they worked under indentures for approved employers. At the end of this period they were given independence and were allowed to work crops on their own account, the result being permanent residence in practically every instance. Subsequent to the World War, however, the Indian Government prohibited continuance of the indenture system, allowing Indian subjects to emigrate only voluntarily.

E
cent,
Th
portin
total
toget
follow

SUMM

1. Mar
2. Coal
A
B
3. Met
4. Qua
mi
5. Cru
6. Pub
T
F
P

7. Tra
V
R
8. Hot
9. Can
10. Lat
11. Dy

New E
Middle
East N
West N
South
East S
West S
Mount
Pacific

1 We
p. 154;
2 Les
3 Cas
4 Cor
5 Nev
6 Illin
7 low
8 Del
West V
9 Ala
10 Ar
11 Ar
12 Ca

TREND OF EMPLOYMENT

Summary for December, 1930

EMPLOYMENT decreased 1 per cent in December, 1930, as compared with November, and pay-roll totals decreased 0.4 per cent, according to reports made to the Bureau of Labor Statistics.

The industrial groups surveyed, the number of establishments reporting in each group, the number of employees covered, and the total pay rolls for one week, for both November and December, together with the per cent of change in December, are shown in the following summary:

SUMMARY OF EMPLOYMENT AND PAY-ROLL TOTALS, NOVEMBER AND DECEMBER, 1930

| Industrial group | Estab- lish- ments | Employment | | Per cent of change | Pay roll in 1 week | | Per cent of change |
|--|--------------------------|---------------------|---------------------|--------------------------|------------------------|------------------------|--------------------------|
| | | Novem- ber, 1930 | Decem- ber, 1930 | | Novem- ber, 1930 | December, 1930 | |
| 1. Manufacturing..... | 13,908 | 2,977,519 | 2,914,604 | ¹ -1.8 | \$70,697,619 | \$69,333,753 | ¹ -1.3 |
| 2. Coal mining..... | 1,493 | 350,695 | 353,269 | +0.7 | 8,588,664 | 8,581,268 | -0.1 |
| Anthracite..... | 159 | 131,113 | 133,745 | +2.0 | 3,836,893 | 3,915,275 | +2.0 |
| Bituminous..... | 1,334 | 219,582 | 219,524 | -(²) | 4,751,771 | 4,665,993 | -1.8 |
| 3. Metalliferous mining..... | 339 | 47,445 | 45,712 | -3.7 | 1,250,776 | 1,182,275 | -5.5 |
| 4. Quarrying and nonmetallic mining..... | 756 | 33,951 | 29,641 | -10.3 | 742,454 | 666,169 | -10.3 |
| 5. Crude petroleum producing..... | 534 | 30,369 | 28,128 | -7.4 | 1,087,174 | 1,049,454 | -3.5 |
| 6. Public utilities..... | 12,013 | 732,554 | 726,229 | -0.9 | 21,985,268 | 22,559,765 | +2.6 |
| Telephone and telegraph..... | 7,934 | 328,897 | 324,014 | -1.5 | 9,404,295 | 9,730,635 | +3.5 |
| Power, light, and water..... | 3,601 | 252,794 | 252,232 | -0.2 | 7,921,556 | 8,122,113 | +2.5 |
| Electric railroad operation and maintenance, exclu- sive of car shops..... | 478 | 150,863 | 149,983 | -0.6 | 4,659,417 | 4,707,017 | +1.0 |
| 7. Trade..... | 9,759 | 361,774 | 411,969 | +13.9 | 9,046,369 | 9,851,472 | +8.9 |
| Wholesale..... | 1,960 | 63,755 | 63,350 | -0.6 | 1,975,104 | 1,980,307 | +0.3 |
| Retail..... | 7,799 | 298,019 | 348,619 | +17.0 | 7,071,265 | 7,871,165 | +11.3 |
| 8. Hotels..... | 2,018 | 147,728 | 145,076 | -1.8 | ³ 2,496,284 | ³ 2,441,910 | -2.2 |
| 9. Canning and preserving..... | 969 | 57,585 | 36,698 | -36.3 | 882,221 | 610,916 | -30.8 |
| 10. Laundries..... | 153 | 18,079 | 17,931 | -0.8 | 359,801 | 353,482 | -1.8 |
| 11. Dyeing and cleaning..... | 69 | 2,866 | 2,680 | -6.5 | 68,960 | 64,059 | -7.1 |
| Total..... | 42,041 | 4,759,665 | 4,711,937 | -1.0 | 117,205,590 | 116,694,523 | -0.4 |

RECAPITULATION BY GEOGRAPHIC DIVISIONS

| GEOGRAPHIC DIVISION | | | | | | | |
|--|---------------|------------------|------------------|-------------------|--------------------|--------------------|-------------|
| New England ⁴ | 3,157 | 435,789 | 425,835 | -2.3 | \$10,064,953 | \$10,024,323 | -0.4 |
| Middle Atlantic ⁵ | 7,223 | 1,469,874 | 1,448,764 | -1.4 | 38,849,241 | 38,406,606 | -1.1 |
| East North Central ⁶ | 9,734 | 1,292,376 | 1,292,872 | +(²) | 33,010,721 | 32,820,590 | -0.6 |
| West North Central ⁷ | 4,588 | 314,863 | 311,656 | -1.0 | 7,555,699 | 7,610,978 | +0.7 |
| South Atlantic ⁸ | 4,509 | 475,732 | 472,910 | -0.6 | 9,500,021 | 9,494,966 | -0.1 |
| East South Central ⁹ | 2,345 | 197,718 | 194,456 | -1.6 | 3,546,126 | 3,533,768 | -0.3 |
| West South Central ¹⁰ | 3,301 | 183,493 | 180,534 | -1.6 | 4,333,666 | 4,342,847 | +0.2 |
| Mountain ¹¹ | 1,633 | 105,998 | 102,752 | -3.1 | 2,815,284 | 2,804,942 | -0.4 |
| Pacific ¹² | 5,551 | 283,822 | 282,158 | -0.6 | 7,529,879 | 7,655,503 | +1.7 |
| All divisions..... | 42,041 | 4,759,665 | 4,711,937 | -1.0 | 117,205,590 | 116,694,523 | -0.4 |

¹ Weighted per cent of change for the combined 54 manufacturing industries, repeated from Table 2, p. 154; the remaining per cents of change, including total, are unweighted.

² Less than one-tenth of 1 per cent.

³ Cash payments only; see text, p. 178.

⁴ Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, Vermont.

⁵ New Jersey, New York, Pennsylvania.

⁶ Illinois, Indiana, Michigan, Ohio, Wisconsin.

⁷ Iowa, Kansas, Minnesota, Missouri, Nebraska, North Dakota, South Dakota.

⁸ Delaware, District of Columbia, Florida, Georgia, Maryland, North Carolina, South Carolina, Virginia, West Virginia.

⁹ Alabama, Kentucky, Mississippi, Tennessee.

¹⁰ Arkansas, Louisiana, Oklahoma, Texas.

¹¹ Arizona, Colorado, Idaho, Montana, New Mexico, Nevada, Utah, Wyoming.

¹² California, Oregon, Washington.

The combined totals of these 15 industrial groups showed a decrease of 1 per cent in employment from November to December and a decrease of 0.4 per cent in employees' earnings.

The per cents of change shown for the total figures represent only the changes in the establishments reporting, as the figures of the several groups are not weighted according to the relative importance of each industry.

Increased employment was shown in December in 2 of the 15 industrial groups: Retail trade gained 17 per cent; anthracite mining gained 2 per cent.

Employment in bituminous coal mining was practically unchanged, the actual decrease being 58 employees out of a total of nearly 220,000 or three one-hundredths of 1 per cent.

Decreased employment was shown in December in each of the remaining 12 industrial groups: Manufacturing, 1.8 per cent; metalliferous mining, 3.7 per cent; quarrying, 10.3 per cent; crude petroleum producing, 7.4 per cent; telephone-telegraph, 1.5 per cent; power-light-water, 0.2 per cent; electric railroads, 0.6 per cent; wholesale trade, 0.6 per cent; hotels, 1.8 per cent; canning and preserving, 36.3 per cent; laundries, 0.8 per cent; dyeing and cleaning, 6.5 per cent.

Pay-roll totals increased in December in anthracite mining and retail trade, both of which industries reported increased employment, and also in the telephone-telegraph, power-light-water, electric railroad, and wholesale trade groups.

Eight of the nine geographic divisions reported fewer employees in December, 1930, than in November, the East North Central division reporting a very small increase; the West North Central, West South Central, and Pacific divisions each reported increased pay-roll totals in December, while there were decreases in each of the remaining six divisions.

PER CAPITA EARNINGS IN DECEMBER, 1930, AND COMPARISON WITH NOVEMBER, 1930, AND DECEMBER, 1929

| Industrial group | Actual per capita earnings in December, 1930 | Per cent of change December, 1930, compared with— | |
|---|--|---|----------------|
| | | November, 1930 | December, 1929 |
| 1. Manufacturing..... | \$23.75 | +0.4 | -10.4 |
| 2. Coal mining: | | | |
| Anthracite..... | 29.27 | +0.1 | -21.2 |
| Bituminous..... | 21.26 | -1.8 | -21.3 |
| 3. Metalliferous mining..... | 25.86 | -2.0 | -15.6 |
| 4. Quarrying and nonmetallic mining..... | 22.47 | (1) | -10.0 |
| 5. Crude petroleum producing..... | 37.31 | +4.2 | -5.3 |
| 6. Public utilities: | | | |
| Telephone and telegraph..... | 30.03 | +5.0 | +8.3 |
| Power, light, and water..... | 32.20 | +2.7 | -0.2 |
| Electric railroads..... | 31.38 | +1.6 | -1.7 |
| 7. Trade: | | | |
| Wholesale..... | 31.26 | +0.9 | -2.7 |
| Retail..... | 22.58 | -4.9 | -2.1 |
| 8. Hotels (cash payments only) ² | 16.83 | -0.4 | -3.3 |
| 9. Canning and preserving..... | 16.65 | +8.8 | -9.9 |
| 10. Laundries..... | 19.71 | -0.9 | (3) |
| 11. Dyeing and cleaning..... | 23.90 | -0.7 | (3) |
| Total..... | 24.77 | +0.6 | (3) |

¹ No change.

² The additional value of board, room, tips, and other perquisites can not be computed.

³ Data not available.

Per capita earnings for December, 1930, given in the preceding table must not be confused with full-time weekly rates of wages; they are actual per capita weekly earnings computed by dividing the total number of employees reported into the total amount of pay roll in the week reported, and the "number of employees" includes all persons who worked any part of the period reported—that is, part-time workers as well as full-time workers.

Comparisons are made with per capita earnings in November, 1930, and with December, 1929, where data are available.

For convenient reference the latest data available relating to all employees, excluding executives and officials, on Class I railroads, drawn from Interstate Commerce Commission reports, are shown in the following statement. These reports are for the months of October and November, instead of for November and December, consequently the figures can not be combined with those presented in the foregoing table.

EMPLOYMENT AND PAY-ROLL TOTALS, CLASS I RAILROADS

| Industry | Employment | | Per cent of change | Amount of pay roll in entire month | | Per cent of change |
|------------------------|---------------|---------------|--------------------|------------------------------------|----------------|--------------------|
| | Oct. 15, 1930 | Nov. 15, 1930 | | October, 1930 | November, 1930 | |
| Class I railroads..... | 1,438,744 | 1,378,242 | -4.2 | \$206,065,981 | \$186,155,582 | -9.7 |

The total number of employees included in this summary is approximately 6,100,000 whose combined earnings in one week amounted to about \$160,000,000.

1. Employment in Selected Manufacturing Industries in December, 1930

Comparison of Employment and Pay-Roll Totals in Manufacturing Industries, November and December, 1930

EMPLOYMENT in manufacturing industries decreased 1.8 per cent in December as compared with November, and pay-roll totals decreased 1.3 per cent. These changes are based upon returns made by 13,150 establishments in 54 of the principal manufacturing industries of the United States. These establishments in December had 2,772,399 employees whose combined earnings in one week were \$65,848,883.

The bureau's weighted index of employment for December, 1930, is 75.1, as compared with 76.5 for November, 78.6 for October, and 91.9 for December, 1929; the index of pay-roll totals for December, 1930, is 67.4, as compared with 68.3 for November, 72.7 for October, and 92.0 for December, 1929. The monthly average for 1926 equals 100.

The vehicles group of industries gained 0.6 per cent in employment in December and the paper group was unchanged, but each of the 10 remaining groups reported fewer employees.

There were increases in employment in December in 13 of the 54 separate industries upon which the manufacturing index is based. The pronounced increases were: 2.5 per cent, in agricultural implements; 2.1 per cent, in book and job printing; 1.7 per cent, in fertili-

zers; 1.5 per cent, in automobiles; 1.1 per cent in rubber tires; and 0.8 per cent in shipbuilding.

The outstanding decreases in employment in December ranged from 13.1 to 4.3 per cent and were in the following industries: Stoves, carriages and wagons, cane-sugar refining, carpets, cement, brick, cast-iron pipe, shirts, sawmills, furniture, leather, and hosiery. Employment fell off 1.5 per cent in the iron and steel industry and 1 per cent in the cotton-goods industry.

Each of the nine additional industries surveyed, but not included in the bureau's indexes, reported fewer employees in December than in November, the decreases ranging from 23.6 in the radio industry and 15 per cent in the beet-sugar industry to 0.8 per cent in the rubber-goods industry.

Decreased employment in December was shown in each of the nine geographic divisions, the Pacific division leading with a decrease of 5.7 per cent and the East North Central division showing the smallest decrease, 0.3 per cent.

TABLE 1.—COMPARISON OF EMPLOYMENT AND PAY-ROLL TOTALS IN IDENTICAL MANUFACTURING ESTABLISHMENTS IN NOVEMBER AND DECEMBER, 1930, BY INDUSTRIES

| Industry | Estab- lish- ments | Number on pay roll | | Per cent of change | Amount of pay roll (1 week) | | Per cent of change |
|---|--------------------------|--------------------|---------------------|-----------------------------|--------------------------------|--------------------|-----------------------------|
| | | November, 1930 | Decem- ber, 1930 | | November, 1930 | December, 1930 | |
| Food and kindred products... | 1,981 | 231,350 | 228,498 | (1) | \$5,904,739 | \$5,808,246 | (1) |
| Slaughtering and meat packing..... | 225 | 87,535 | 88,044 | +0.6 | 2,300,496 | 2,292,628 | -0.3 |
| Confectionery..... | 327 | 38,226 | 37,455 | -2.0 | 677,269 | 698,376 | +3.1 |
| Ice cream..... | 342 | 12,761 | 12,327 | -3.4 | 423,965 | 400,112 | -5.6 |
| Flour..... | 352 | 15,147 | 14,872 | -1.8 | 394,540 | 385,387 | -2.3 |
| Baking..... | 719 | 67,387 | 66,465 | -1.4 | 1,813,716 | 1,763,691 | -2.8 |
| Sugar refining, cane..... | 16 | 10,294 | 9,335 | -9.3 | 294,753 | 268,052 | -9.1 |
| Textiles and their products... | 2,405 | 535,863 | 523,896 | (1) | 9,525,449 | 9,374,941 | (1) |
| Cotton goods..... | 450 | 165,590 | 163,972 | -1.0 | 2,328,809 | 2,409,993 | +3.5 |
| Hosiery and knit goods..... | 366 | 94,600 | 90,508 | -4.3 | 1,713,429 | 1,539,839 | -10.1 |
| Silk goods..... | 267 | 57,514 | 56,871 | -1.1 | 1,082,901 | 1,101,994 | +1.8 |
| Woolen and worsted goods..... | 183 | 49,900 | 48,603 | -2.7 | 990,557 | 1,000,398 | +1.0 |
| Carpets and rugs..... | 29 | 15,739 | 14,321 | -9.0 | 336,314 | 305,375 | -9.2 |
| Dyeing and finishing tex- tiles..... | 117 | 35,899 | 36,017 | +0.3 | 868,914 | 869,738 | +0.1 |
| Clothing, men's..... | 346 | 56,068 | 54,454 | -2.9 | 967,482 | 952,407 | -1.6 |
| Shirts and collars..... | 112 | 18,055 | 16,847 | -6.7 | 252,914 | 228,042 | -9.8 |
| Clothing, women's..... | 412 | 29,452 | 29,464 | +(1) | 725,158 | 708,401 | -2.3 |
| Millinery and lace goods..... | 123 | 12,986 | 12,839 | -1.1 | 258,971 | 258,754 | -0.1 |
| Iron and steel and their products... | 1,964 | 569,243 | 558,308 | (1) | 13,929,967 | 13,746,995 | (1) |
| Iron and steel..... | 199 | 231,881 | 228,494 | -1.5 | 5,844,224 | 5,687,238 | -2.7 |
| Cast-iron pipe..... | 39 | 9,360 | 8,598 | -8.1 | 201,341 | 184,972 | -8.1 |
| Structural ironwork..... | 175 | 27,141 | 26,783 | -1.3 | 726,033 | 721,770 | -0.6 |
| Foundry and machine-shop products..... | 1,081 | 202,729 | 200,433 | -1.1 | 4,861,290 | 4,961,085 | +2.1 |
| Hardware..... | 74 | 25,433 | 25,286 | -0.6 | 530,063 | 525,320 | -0.9 |
| Machine tools..... | 149 | 25,640 | 24,722 | -3.6 | 621,600 | 607,427 | -2.3 |
| Steam fittings and steam and hot-water heating apparatus..... | 109 | 27,891 | 27,332 | -2.0 | 697,449 | 685,085 | -1.8 |
| Stoves..... | 138 | 19,168 | 16,660 | -13.1 | 447,967 | 374,098 | -16.5 |
| Lumber and its products... | 1,301 | 163,904 | 155,639 | (1) | 3,168,479 | 2,921,487 | (1) |
| Lumber, sawmills..... | 500 | 93,704 | 88,107 | -6.0 | 1,727,925 | 1,569,493 | -9.2 |
| Lumber, millwork..... | 316 | 24,591 | 24,381 | -0.9 | 519,870 | 508,198 | -2.2 |
| Furniture..... | 395 | 45,609 | 43,151 | -5.4 | 920,684 | 843,796 | -8.4 |
| Leather and its products... | 444 | 119,090 | 115,383 | (1) | 1,942,967 | 2,059,133 | (1) |
| Leather..... | 131 | 23,787 | 22,700 | -4.6 | 551,809 | 529,836 | -4.0 |
| Boots and shoes..... | 313 | 95,303 | 92,683 | -2.7 | 1,391,158 | 1,529,297 | +9.9 |

See footnotes at end of table.

TABLE 1.—COMPARISON OF EMPLOYMENT AND PAY-ROLL TOTALS IN IDENTICAL MANUFACTURING ESTABLISHMENTS IN NOVEMBER AND DECEMBER, 1930, BY INDUSTRIES—Continued

| Industry | Estab- lish- ments | Number on pay roll | | Per cent of change | Amount of pay roll (1 week) | | Per cent of change |
|---|--------------------------|--------------------|---------------------|-----------------------------|--------------------------------|--------------------|-----------------------------|
| | | November, 1930 | Decem- ber, 1930 | | November, 1930 | December, 1930 | |
| Paper and printing | 1,370 | 217,170 | 216,880 | (1) | \$7,022,721 | \$7,051,905 | (1) |
| Paper and pulp..... | 208 | 53,742 | 53,754 | + (2) | 1,334,555 | 1,323,454 | -0.8 |
| Paper boxes..... | 310 | 26,806 | 25,876 | -3.5 | 598,777 | 563,656 | -5.9 |
| Printing, book and job..... | 434 | 55,421 | 56,590 | +2.1 | 1,856,277 | 1,908,203 | +2.8 |
| Printing, newspapers..... | 418 | 81,201 | 80,660 | -0.7 | 3,233,112 | 3,256,592 | +0.7 |
| Chemicals and allied prod- ucts | 435 | 99,511 | 99,634 | (1) | 2,882,498 | 2,840,901 | (1) |
| Chemicals..... | 157 | 38,906 | 38,358 | -1.4 | 1,046,548 | 1,031,662 | -1.4 |
| Fertilizers..... | 180 | 9,436 | 9,596 | +1.7 | 170,832 | 172,139 | +0.8 |
| Petroleum refining..... | 98 | 51,169 | 51,080 | -0.2 | 1,665,118 | 1,637,100 | -1.7 |
| Stone, clay, and glass prod- ucts | 1,066 | 110,953 | 104,802 | (1) | 2,555,872 | 2,363,328 | (1) |
| Cement..... | 117 | 21,123 | 19,372 | -8.3 | 548,848 | 490,541 | -10.6 |
| Brick, tile, and terra cotta..... | 686 | 33,821 | 31,045 | -8.2 | 704,924 | 625,138 | -11.3 |
| Pottery..... | 122 | 17,581 | 17,250 | -1.9 | 394,143 | 381,239 | -3.3 |
| Glass..... | 141 | 38,428 | 37,135 | -3.4 | 907,957 | 866,410 | -4.6 |
| Metal products, other than iron and steel | 238 | 44,719 | 44,116 | (1) | 1,021,240 | 1,018,552 | (1) |
| Stamped and enameled ware..... | 77 | 16,527 | 16,125 | -2.4 | 354,283 | 344,960 | -2.6 |
| Brass, bronze, and copper products..... | 161 | 28,192 | 27,991 | -0.7 | 666,957 | 673,592 | +1.0 |
| Tobacco products | 220 | 59,655 | 58,235 | (1) | 920,098 | 930,838 | (1) |
| Chewing and smoking to- bacco and snuff..... | 26 | 8,469 | 8,483 | +0.2 | 132,218 | 134,148 | +1.5 |
| Cigars and cigarettes..... | 194 | 51,186 | 49,752 | -2.8 | 787,880 | 796,690 | +1.1 |
| Vehicles for land transpor- tation | 1,237 | 386,725 | 389,343 | (1) | 10,428,695 | 10,253,679 | (1) |
| Automobiles..... | 201 | 254,471 | 258,163 | +1.5 | 6,671,577 | 6,439,143 | -3.5 |
| Carriages and wagons..... | 53 | 909 | 815 | -10.3 | 19,171 | 16,554 | -13.7 |
| Car building and repairing, electric-railroad..... | 446 | 30,385 | 29,127 | -4.1 | 916,895 | 889,779 | -3.0 |
| Car building and repairing, steam-railroad..... | 537 | 100,960 | 101,238 | +0.3 | 2,821,052 | 2,908,203 | +3.1 |
| Miscellaneous industries | 489 | 282,049 | 278,265 | (1) | 7,575,796 | 7,478,878 | (1) |
| Agricultural implements..... | 84 | 18,667 | 19,132 | +2.5 | 428,119 | 441,783 | +3.2 |
| Electrical machinery, appa- ratus, and supplies..... | 207 | 167,052 | 162,336 | -2.8 | 4,687,148 | 4,504,687 | -3.9 |
| Pianos and organs..... | 64 | 6,068 | 5,813 | -4.2 | 167,457 | 155,922 | -6.9 |
| Rubber boots and shoes..... | 10 | 15,275 | 15,287 | +0.1 | 296,713 | 310,265 | +4.6 |
| Automobile tires and inner tubes..... | 40 | 38,092 | 38,513 | +1.1 | 905,444 | 969,781 | +7.1 |
| Shipbuilding..... | 84 | 36,895 | 37,184 | +0.8 | 1,090,915 | 1,096,440 | +0.5 |
| Total—54 industries used in computing index numbers of employment and pay roll..... | 13,150 | 2,826,232 | 2,772,399 | (1) | 66,878,521 | 65,848,883 | (1) |
| Industries added in 1929 and 1930, for which data for the index-base year (1926) are not available | 758 | 157,287 | 142,205 | (3) | 3,819,098 | 3,484,870 | (3) |
| Rayon..... | 16 | 21,569 | 21,043 | -2.4 | 429,605 | 407,332 | -5.2 |
| Radio..... | 45 | 41,257 | 31,526 | -23.6 | 906,533 | 642,571 | -29.1 |
| Aircraft..... | 43 | 8,412 | 8,307 | -1.2 | 268,414 | 265,879 | -0.9 |
| Jewelry..... | 112 | 12,634 | 11,902 | -5.8 | 288,400 | 277,355 | -3.8 |
| Paint and varnish..... | 182 | 12,271 | 12,082 | -1.5 | 326,443 | 329,184 | +0.8 |
| Rubber goods, other than boots, shoes, tires, and in- ner tubes..... | 75 | 12,942 | 12,843 | -0.8 | 306,338 | 300,730 | +1.1 |
| Beet sugar..... | 68 | 20,045 | 17,030 | -15.0 | 484,535 | 427,835 | -11.7 |
| Beverages..... | 176 | 9,358 | 8,997 | -3.9 | 283,566 | 275,102 | -3.0 |
| Cash registers, adding ma- chines, and calculating machines..... | 41 | 18,799 | 18,475 | -1.7 | 525,264 | 549,882 | +4.7 |
| All industries | 13,908 | 2,977,519 | 2,914,604 | (3) | 70,697,619 | 69,333,753 | (3) |

See footnotes at end of table.

TABLE 1.—COMPARISON OF EMPLOYMENT AND PAY-ROLL TOTALS IN IDENTICAL MANUFACTURING ESTABLISHMENTS IN NOVEMBER AND DECEMBER, 1930, BY INDUSTRIES—Continued

RECAPITULATION BY GEOGRAPHIC DIVISIONS

| Industry | Estab-lish-ments | Number on pay roll | | Per cent of change | Amount of pay roll (1 week) | | Per cent of change |
|----------------------------------|----------------------|--------------------|-----------------|--------------------|-----------------------------|----------------|--------------------|
| | | November, 1930 | Decem-ber, 1930 | | November, 1930 | December, 1930 | |
| GEOGRAPHIC DIVISION ⁴ | | | | | | | |
| New England..... | 1, 533 | 333, 845 | 323, 657 | -3. 1 | \$7, 152, 015 | \$7, 094, 462 | -0.8 |
| Middle Atlantic..... | 3, 587 | 900, 161 | 869, 841 | -3. 4 | 23, 036, 414 | 22, 258, 683 | -3. 4 |
| East North Central..... | 3, 390 | 927, 632 | 925, 040 | -0.3 | 23, 343, 071 | 23, 045, 247 | -1.3 |
| West North Central..... | 1, 262 | 170, 015 | 166, 932 | -1. 8 | 3, 980, 707 | 4, 005, 456 | +0.6 |
| South Atlantic..... | 1, 628 | 311, 087 | 305, 598 | -1. 8 | 5, 774, 272 | 5, 682, 368 | -1.6 |
| East South Central..... | 626 | 104, 401 | 102, 255 | -2. 1 | 1, 791, 679 | 1, 801, 986 | +0.6 |
| West South Central..... | 754 | 83, 007 | 81, 860 | -1. 4 | 1, 864, 064 | 1, 846, 879 | -0.9 |
| Mountain..... | 298 | 38, 765 | 37, 033 | -4. 5 | 972, 036 | 963, 128 | -0.9 |
| Pacific..... | 830 | 108, 606 | 102, 388 | -5. 7 | 2, 783, 361 | 2, 635, 544 | -5.3 |
| All divisions..... | 13, 908 ⁵ | 2, 977, 519 | 2, 914, 604 | (³) | 70, 697, 619 | 69, 333, 753 | (³) |

¹ The per cent of change has not been computed for the reason that the figures in the preceding columns are unweighted and refer only to the establishments reporting; for the weighted per cent of change, wherein proper allowance is made for the relative importance of the several industries, so that the figures may represent all establishments of the country in the industries here represented, see Table 2.

² Less than one-tenth of 1 per cent.

³ The per cent of change has not been computed for the reason that the figures in the preceding columns are unweighted and refer only to the establishments reporting.

⁴ See footnotes 4 to 12, p. 149.

TABLE 2.—PER CENT OF CHANGE, NOVEMBER TO DECEMBER, 1930—12 GROUPS OF MANUFACTURING INDUSTRIES AND TOTAL OF 54 INDUSTRIES INCLUDED IN INDEX

[Computed from the index numbers of each group, which are obtained by weighting the index numbers of the several industries of the group, by the number of employees, or wages paid, in the industries]

| Group | Per cent of change November to December, 1930 | | Group | Per cent of change November to December, 1930 | |
|--|---|--------------------|--|---|--------------------|
| | Number on pay roll | Amount of pay roll | | Number on pay roll | Amount of pay roll |
| Food and kindred products..... | -1.3 | -1.7 | Metal products, other than iron and steel..... | -1.2 | -0.2 |
| Textiles and their products..... | -2.0 | -1.3 | Tobacco products..... | -2.5 | +1.1 |
| Iron and steel and their products..... | -1.9 | -1.1 | Vehicles for land transportation..... | +0.6 | -0.3 |
| Lumber and its products..... | -5.1 | -7.8 | Miscellaneous industries..... | -1.3 | -1.2 |
| Leather and its products..... | -3.1 | +5.6 | | | |
| Paper and printing..... | (¹) | +0.6 | | | |
| Chemicals and allied products..... | -0.6 | -1.5 | | | |
| Stone, clay, and glass products..... | -5.6 | -7.5 | | | |
| | | | Fifty-four industries..... | -1.8 | -1.3 |

¹ No change.

Comparison of Employment and Pay-Roll Totals in Manufacturing Industries, December, 1930, with December, 1929

THE level of employment in manufacturing industries in December, 1930, was 18.3 per cent below the level of December, 1929, and pay-roll totals were 26.7 per cent lower.

Both employment and pay rolls were lower in December, 1930, than in December, 1929, in each of the 54 separate manufacturing industries upon which the indexes are based.

Among the 12 groups of industries the smallest decreases in employment over this 12-month interval—7.8 per cent, 8.2 per cent, and 4.9 per cent—were in the paper, food, and tobacco groups, and

the greatest decrease—28.3 per cent—was in the lumber group. The textile group reported a falling off in employment of 17.5 per cent, the iron and steel group of 20.6 per cent, the leather group of 17.2 per cent, the chemical group of 13.1 per cent, the stone-clay-glass group of 19.2 per cent, the nonferrous-metal group of 18.4 per cent, the vehicles group of 20.2 per cent, and the group of miscellaneous industries of 21.8 per cent.

Decreased employment was shown in December, 1930, as compared with December, 1929, in each of the nine geographic divisions, the greatest decrease (24.8 per cent) being in the West South Central division and the smallest (13.6 per cent) in the West North Central division.

TABLE 3.—COMPARISON OF EMPLOYMENT AND PAY-ROLL TOTALS IN MANUFACTURING INDUSTRIES, DECEMBER, 1930, WITH DECEMBER, 1929

[The per cents of change for each of the 12 groups of industries and for the total of all industries are weighted in the same manner as are the per cents of change in Table 2]

| Industry | Per cent of change December, 1930, compared with December, 1929 | | Industry | Per cent of change December, 1930, compared with December, 1929 | |
|--|--|--------------------------|--|--|--------------------------|
| | Number on pay roll | Amount of pay roll | | Number on pay roll | Amount of pay roll |
| Food and kindred products | -8.2 | -10.1 | Chemicals and allied products | -13.1 | -17.3 |
| Slaughtering and meat packing | -8.5 | -9.0 | Chemicals | -9.6 | -15.6 |
| Confectionery | -11.6 | -14.6 | Fertilizers | -10.1 | -17.3 |
| Ice cream | -5.0 | -9.1 | Petroleum refining | -17.6 | -18.8 |
| Flour | -9.5 | -13.7 | Stone, clay, and glass products | -19.2 | -29.7 |
| Baking | -6.7 | -9.1 | Cement | -13.5 | -26.2 |
| Sugar refining, cane | -5.2 | -11.5 | Brick, tile, and terra cotta | -23.3 | -35.2 |
| Textiles and their products | -17.5 | -24.9 | Pottery | -15.6 | -24.7 |
| Cotton goods | -18.8 | -21.4 | Glass | -19.2 | -28.6 |
| Hosiery and knit goods | -15.0 | -28.4 | Metal products, other than iron and steel | -18.4 | -26.4 |
| Silk goods | -14.2 | -18.3 | Stamped and enameled ware | -13.0 | -17.3 |
| Woolen and worsted goods | -22.1 | -25.6 | Brass, bronze, and copper products | -20.7 | -29.5 |
| Carpets and rugs | -37.6 | -44.6 | Tobacco products | -4.9 | -12.6 |
| Dyeing and finishing textiles | -6.0 | -6.7 | Chewing and smoking tobacco and snuff | -7.3 | -11.5 |
| Clothing, men's | -22.5 | -38.9 | Cigars and cigarettes | -4.6 | -12.6 |
| Shirts and collars | -23.5 | -36.0 | Vehicles for land transportation | -20.2 | -30.1 |
| Clothing, women's | -9.3 | -20.3 | Automobiles | -13.3 | -23.8 |
| Millinery and lace goods | -13.5 | -22.1 | Carriages and wagons | -40.8 | -42.2 |
| Iron and steel and their products | -20.6 | -33.8 | Car building and repairing, electric-railroad | -11.1 | -16.7 |
| Iron and steel | -13.6 | -27.5 | Car building and repairing, steam-railroad | -26.8 | -35.7 |
| Cast-iron pipe | -21.4 | -27.2 | Miscellaneous industries | -21.8 | -29.7 |
| Structural ironwork | -17.1 | -26.8 | Agricultural implements | -36.3 | -50.5 |
| Foundry and machine-shop products | -24.7 | -37.9 | Electrical machinery, apparatus, and supplies | -24.3 | -32.1 |
| Hardware | -17.8 | -33.8 | Pianos and organs | -18.0 | -28.8 |
| Machine tools | -37.2 | -52.5 | Rubber boots and shoes | -24.2 | -37.8 |
| Steam fittings and steam and hot-water heating apparatus | -16.6 | -24.3 | Automobile tires and inner tubes | -15.5 | -22.1 |
| Stoves | -26.9 | -41.8 | Shipbuilding | -9.1 | -12.8 |
| Lumber and its products | -28.3 | -38.9 | All industries | -18.3 | -26.7 |
| Lumber, sawmills | -30.7 | -42.0 | | | |
| Lumber, millwork | -18.8 | -26.5 | | | |
| Furniture | -27.8 | -39.4 | | | |
| Leather and its products | -17.2 | -30.8 | | | |
| Leather | -17.3 | -23.2 | | | |
| Boots and shoes | -17.2 | -33.4 | | | |
| Paper and printing | -7.8 | -10.5 | | | |
| Paper and pulp | -11.1 | -19.6 | | | |
| Paper boxes | -12.2 | -17.9 | | | |
| Printing, book and job | -7.6 | -9.2 | | | |
| Printing, newspapers | -3.2 | -4.5 | | | |

TABLE 3.—COMPARISON OF EMPLOYMENT AND PAY-ROLL TOTALS IN MANUFACTURING INDUSTRIES, DECEMBER, 1930, WITH DECEMBER, 1929—Continued

RECAPITULATION BY GEOGRAPHIC DIVISIONS

| Industry | Per cent of change December, 1930, compared with December, 1929 | | Industry | Per cent of change December, 1930, compared with December, 1929 | |
|----------------------------------|--|--------------------------|--|--|--------------------------|
| | Number on pay roll | Amount of pay roll | | Number on pay roll | Amount of pay roll |
| GEOGRAPHIC DIVISION ¹ | | | GEOGRAPHIC DIVISION ¹ —Con. | | |
| New England..... | -17.9 | -25.6 | West South Central..... | -24.8 | -29.3 |
| Middle Atlantic..... | -15.7 | -25.5 | Mountain..... | -20.9 | -26.2 |
| East North Central..... | -18.1 | -28.2 | Pacific..... | -21.9 | -29.8 |
| West North Central..... | -13.6 | -18.5 | | | |
| South Atlantic..... | -14.1 | -20.3 | | | |
| East South Central..... | -22.1 | -28.3 | All divisions..... | -18.3 | -26.7 |

¹ See footnotes 4 to 12, p. 149.

Per Capita Earnings in Manufacturing Industries

ACTUAL per capita weekly earnings in December, 1930, for each of the 63 manufacturing industries surveyed by the Bureau of Labor Statistics, together with per cents of change in December, 1930, as compared with November, 1930, and December, 1929, are shown in Table 4.

Per capita earnings in December, 1930, for the combined 54 chief manufacturing industries of the United States, upon which the bureau's indexes of employment and pay rolls are based, were 0.4 per cent higher than in November, 1930, and 10.4 per cent lower than in December, 1929.

The actual average per capita weekly earnings in December, 1930, for the 54 manufacturing industries were \$23.75; the average per capita earnings for all of the 63 industries combined were \$23.79.

TABLE 4.—PER CAPITA EARNINGS IN MANUFACTURING INDUSTRIES IN DECEMBER, 1930, AND COMPARISON WITH NOVEMBER, 1930, AND DECEMBER, 1929

| Industry | Per capita weekly earnings in December, 1930 | Per cent of change De- cember, 1930, com- pared with— | |
|------------------------------------|---|---|-------------------|
| | | November, 1930 | December, 1929 |
| Food and kindred products: | | | |
| Slaughtering and meat packing..... | \$26.04 | -0.9 | -0.3 |
| Confectionery..... | 18.65 | +5.2 | -3.7 |
| Ice cream..... | 32.46 | -2.3 | -4.2 |
| Flour..... | 25.91 | -0.5 | -4.6 |
| Baking..... | 26.54 | -1.4 | -2.5 |
| Sugar refining, cane..... | 28.71 | +0.3 | -7.0 |
| Textiles and their products: | | | |
| Cotton goods..... | 14.70 | +4.6 | -2.9 |
| Hosiery and knit goods..... | 17.01 | -6.1 | -15.8 |
| Silk goods..... | 19.38 | +2.9 | -4.8 |
| Woolen and worsted goods..... | 20.58 | +3.8 | -4.1 |
| Carpets and rugs..... | 21.32 | -0.2 | -11.5 |
| Dyeing and finishing textiles..... | 24.15 | -0.2 | -0.7 |
| Clothing, men's..... | 17.49 | +1.3 | -21.2 |
| Shirts and collars..... | 13.54 | -3.4 | -16.3 |
| Clothing, women's..... | 24.04 | -2.4 | -12.2 |
| Millinery and lace goods..... | 20.15 | +1.1 | -9.7 |

TREND OF EMPLOYMENT

157

TABLE 4.—PER CAPITA EARNINGS IN MANUFACTURING INDUSTRIES IN DECEMBER, 1930, AND COMPARISON WITH NOVEMBER, 1930, AND DECEMBER, 1929—Con.

| Industry | Per capita weekly earnings in December, 1930 | Per cent of change December, 1930, compared with— | |
|---|--|---|------------------|
| | | November, 1930 | December, 1929 |
| Iron and steel and their products: | | | |
| Iron and steel..... | \$24.89 | -1.2 | -16.0 |
| Cast-iron pipe..... | 21.51 | (¹) | -7.1 |
| Structural ironwork..... | 26.95 | +0.7 | -12.0 |
| Foundry and machine-shop products..... | 24.75 | +3.2 | -17.4 |
| Hardware..... | 20.78 | -0.3 | -19.4 |
| Machine tools..... | 24.57 | +1.4 | -24.3 |
| Steam fittings and steam and hot-water heating apparatus..... | 25.07 | +0.2 | -9.3 |
| Stoves..... | 22.45 | -3.9 | -20.0 |
| Lumber and its products: | | | |
| Lumber, sawmills..... | 17.81 | -3.4 | -16.1 |
| Lumber, millwork..... | 20.84 | -1.4 | -9.5 |
| Furniture..... | 19.55 | -3.2 | -16.0 |
| Leather and its products: | | | |
| Leather..... | 23.34 | +0.6 | -7.6 |
| Boots and shoes..... | 16.50 | +13.0 | -19.6 |
| Paper and printing: | | | |
| Paper and pulp..... | 24.62 | -0.8 | -9.7 |
| Paper boxes..... | 21.78 | -2.5 | -6.1 |
| Printing, book and job..... | 33.72 | +0.7 | -1.9 |
| Printing, newspapers..... | 40.37 | +1.4 | -1.4 |
| Chemicals and allied products: | | | |
| Chemicals..... | 26.90 | -(²) | -6.5 |
| Fertilizers..... | 17.94 | -0.9 | -8.2 |
| Petroleum refining..... | 32.05 | -1.5 | -1.6 |
| Stone, clay, and glass products: | | | |
| Cement..... | 25.32 | -2.5 | -14.8 |
| Brick, tile, and terra cotta..... | 20.14 | -3.4 | -15.4 |
| Pottery..... | 22.10 | -1.4 | -10.5 |
| Glass..... | 23.33 | -1.3 | -11.5 |
| Metal products, other than iron and steel: | | | |
| Stamped and enameled ware..... | 21.39 | -0.2 | -4.6 |
| Brass, bronze, and copper products..... | 24.06 | +1.7 | -11.4 |
| Tobacco products: | | | |
| Chewing and smoking tobacco and snuff..... | 15.81 | +1.3 | -4.1 |
| Cigars and cigarettes..... | 16.01 | +4.0 | -8.6 |
| Vehicles for land transportation: | | | |
| Automobiles..... | 24.94 | -4.9 | -12.0 |
| Carriages and wagons..... | 20.31 | -3.7 | -2.1 |
| Car building and repairing, electric-railroad..... | 30.55 | +1.2 | -5.9 |
| Car building and repairing, steam-railroad..... | 28.73 | +2.8 | -12.1 |
| Miscellaneous industries: | | | |
| Agricultural implements..... | 23.09 | +0.7 | -22.6 |
| Electrical machinery, apparatus, and supplies..... | 27.75 | -1.1 | -10.1 |
| Pianos and organs..... | 26.82 | -2.8 | -13.2 |
| Rubber boots and shoes..... | 20.30 | +4.5 | -18.2 |
| Automobile tires and inner tubes..... | 25.18 | +5.9 | -8.2 |
| Shipbuilding..... | 29.49 | -0.3 | -4.1 |
| Industries added in 1929 and 1930, for which data for the index-base year (1926) are not available: | | | |
| Rayon..... | 19.36 | -2.8 | -4.2 |
| Radio..... | 20.38 | -7.2 | -27.4 |
| Aircraft..... | 32.01 | +0.3 | (³) |
| Jewelry..... | 23.30 | +2.1 | (³) |
| Paint and varnish..... | 27.25 | +2.4 | (³) |
| Rubber goods, other than boots, shoes, tires, and inner tubes..... | 24.12 | +1.9 | (³) |
| Beet sugar..... | 25.12 | +3.9 | (³) |
| Beverages..... | 30.58 | +0.9 | (³) |
| Cash registers, adding machines, and calculating machines..... | 29.76 | +6.5 | (³) |

¹ No change.² Less than one-tenth of 1 per cent.³ Data not available.

Index Numbers of Employment and Pay-Roll Totals in Manufacturing Industries

TABLE 5 shows the general index of employment in manufacturing industries and the general index of pay-roll totals, by months, from January, 1923, to December, 1930, together with average indexes for each of the years 1923 to 1930, inclusive.

TABLE 5.—GENERAL INDEXES OF EMPLOYMENT AND PAY-ROLL TOTALS IN MANUFACTURING INDUSTRIES, JANUARY, 1923, TO DECEMBER, 1930

[Monthly average, 1926=100]

| Month | Employment | | | | | | | | Pay-roll totals | | | | | | | |
|---------------------|--------------|-------------|-------------|--------------|-------------|-------------|-------------|-------------|-----------------|-------------|-------------|--------------|-------------|-------------|--------------|-------------|
| | 1923 | 1924 | 1925 | 1926 | 1927 | 1928 | 1929 | 1930 | 1923 | 1924 | 1925 | 1926 | 1927 | 1928 | 1929 | 1930 |
| January..... | 106.6 | 103.8 | 97.9 | 100.4 | 97.3 | 91.6 | 95.2 | 90.2 | 95.8 | 98.6 | 93.9 | 98.0 | 94.9 | 89.6 | 94.5 | 87.6 |
| February..... | 108.4 | 105.1 | 99.7 | 101.5 | 99.0 | 93.0 | 97.4 | 90.3 | 99.4 | 103.8 | 99.3 | 102.2 | 100.6 | 93.9 | 101.8 | 90.7 |
| March..... | 110.8 | 104.9 | 100.4 | 102.0 | 99.5 | 93.7 | 98.6 | 89.8 | 104.7 | 103.3 | 100.8 | 103.4 | 102.0 | 95.2 | 103.9 | 90.8 |
| April..... | 100.8 | 102.8 | 100.2 | 101.0 | 98.6 | 93.3 | 99.1 | 89.1 | 105.7 | 101.1 | 98.3 | 101.5 | 100.8 | 93.8 | 104.6 | 89.8 |
| May..... | 110.8 | 98.8 | 98.9 | 99.8 | 97.6 | 93.0 | 99.2 | 87.7 | 109.4 | 96.5 | 98.5 | 99.8 | 99.8 | 94.1 | 104.8 | 87.6 |
| June..... | 110.9 | 95.6 | 98.0 | 99.3 | 97.0 | 93.1 | 98.8 | 85.5 | 109.3 | 90.8 | 95.7 | 99.7 | 97.4 | 94.2 | 102.8 | 84.1 |
| July..... | 109.2 | 92.3 | 97.2 | 97.7 | 95.0 | 92.2 | 98.2 | 81.6 | 104.3 | 84.3 | 93.5 | 95.2 | 93.0 | 91.2 | 98.2 | 75.9 |
| August..... | 108.5 | 92.5 | 97.8 | 98.7 | 95.1 | 93.6 | 98.6 | 79.9 | 103.7 | 87.2 | 95.4 | 98.7 | 95.0 | 94.2 | 102.1 | 73.9 |
| September..... | 108.6 | 94.3 | 98.9 | 100.3 | 95.8 | 95.0 | 99.3 | 79.7 | 104.4 | 89.8 | 94.4 | 99.3 | 94.1 | 95.4 | 102.6 | 74.2 |
| October..... | 108.1 | 95.6 | 100.4 | 100.7 | 95.3 | 95.9 | 98.3 | 78.6 | 106.8 | 92.4 | 100.4 | 102.9 | 95.2 | 99.0 | 102.3 | 72.7 |
| November..... | 107.4 | 95.5 | 100.7 | 99.5 | 93.5 | 95.4 | 94.8 | 78.5 | 105.4 | 91.4 | 100.4 | 99.6 | 91.6 | 96.1 | 95.1 | 68.3 |
| December..... | 105.4 | 97.3 | 100.8 | 98.9 | 92.6 | 95.5 | 91.9 | 75.1 | 103.2 | 95.7 | 101.6 | 99.8 | 93.2 | 97.7 | 92.0 | 67.4 |
| Average..... | 108.8 | 98.2 | 99.2 | 100.0 | 96.4 | 93.8 | 97.5 | 83.7 | 104.3 | 94.6 | 97.7 | 100.0 | 96.5 | 94.5 | 100.4 | 80.3 |

Index numbers showing relatively the variation in number of persons employed and in pay-roll totals in each of the 54 manufacturing industries surveyed by the Bureau of Labor Statistics and in each of the 12 groups of industries, and also general indexes for the combined 12 groups of industries, are shown in Table 6 for December, 1929, and for October, November, and December, 1930.

TABLE 6.—INDEXES OF EMPLOYMENT AND PAY-ROLL TOTALS IN MANUFACTURING INDUSTRIES, DECEMBER, 1929, AND OCTOBER, NOVEMBER, AND DECEMBER, 1930

[Monthly average, 1926=100]

| Industry | Employment | | | | Pay-roll totals | | | |
|---|--------------|-------------|-------------|-------------|-----------------|-------------|-------------|-------------|
| | 1929 | | 1930 | | 1929 | | 1930 | |
| | Decem-ber | Octo-ber | Novem-ber | Decem-ber | Decem-ber | Octo-ber | Novem-ber | Decem-ber |
| General index..... | 91.9 | 78.6 | 76.5 | 75.1 | 92.0 | 72.7 | 68.3 | 67.4 |
| Food and kindred products..... | 100.3 | 94.5 | 93.3 | 92.1 | 102.8 | 95.9 | 94.0 | 92.4 |
| Slaughtering and meat packing..... | 105.0 | 94.1 | 95.5 | 96.1 | 108.4 | 97.6 | 98.9 | 98.6 |
| Confectionery..... | 102.5 | 95.3 | 92.5 | 90.6 | 105.7 | 93.3 | 87.6 | 90.3 |
| Ice cream..... | 79.3 | 84.1 | 77.9 | 75.3 | 81.6 | 83.8 | 78.6 | 74.2 |
| Flour..... | 101.8 | 97.1 | 93.8 | 92.1 | 106.0 | 99.4 | 93.6 | 91.5 |
| Baking..... | 100.0 | 96.1 | 94.6 | 93.3 | 101.7 | 97.0 | 95.1 | 92.4 |
| Sugar refining, cane..... | 84.2 | 87.3 | 88.0 | 79.8 | 89.5 | 89.0 | 87.1 | 79.2 |
| Textiles and their products..... | 93.5 | 80.1 | 78.7 | 77.1 | 90.7 | 73.7 | 69.0 | 68.1 |
| Cotton goods..... | 92.0 | 74.5 | 75.4 | 74.7 | 87.9 | 66.8 | 66.8 | 69.1 |
| Hosiery and knit goods..... | 98.3 | 87.0 | 87.4 | 83.6 | 107.2 | 86.3 | 85.5 | 76.8 |
| Silk goods..... | 96.1 | 79.8 | 83.4 | 82.5 | 95.2 | 75.9 | 76.4 | 77.8 |
| Woolen and worsted goods..... | 89.5 | 74.1 | 71.7 | 69.7 | 86.3 | 67.7 | 63.6 | 64.2 |
| Carpets and rugs..... | 104.3 | 74.2 | 71.6 | 65.1 | 95.0 | 60.9 | 57.9 | 52.6 |
| Dyeing and finishing tex-tiles..... | 99.0 | 91.4 | 92.8 | 93.1 | 94.4 | 86.9 | 88.1 | 88.1 |
| Clothing, men's..... | 88.9 | 77.0 | 70.9 | 68.9 | 81.7 | 60.0 | 50.7 | 49.9 |
| Shirts and collars..... | 94.1 | 78.1 | 77.1 | 72.0 | 92.2 | 68.2 | 65.4 | 59.0 |
| Clothing, women's..... | 97.9 | 96.9 | 88.8 | 88.8 | 93.4 | 94.0 | 76.1 | 74.4 |
| Millinery and lace goods.... | 85.5 | 83.1 | 74.8 | 74.0 | 78.4 | 74.4 | 61.2 | 61.1 |

TABLE 6.—INDEXES OF EMPLOYMENT AND PAY-ROLL TOTALS IN MANUFACTURING INDUSTRIES, DECEMBER, 1929, AND OCTOBER, NOVEMBER, AND DECEMBER, 1930—Continued

| Industry | Employment | | | | Pay-roll totals | | | |
|---|---------------|--------------|---------------|---------------|-----------------|--------------|---------------|---------------|
| | 1929 | 1930 | | | 1929 | 1930 | | |
| | Decem- ber | Octo- ber | Novem- ber | Decem- ber | Decem- ber | Octo- ber | Novem- ber | Decem- ber |
| Iron and steel and their products | 93.2 | 77.6 | 75.4 | 74.0 | 92.7 | 68.5 | 62.1 | 61.4 |
| Iron and steel..... | 87.5 | 78.3 | 76.8 | 75.6 | 85.2 | 70.3 | 63.5 | 61.8 |
| Cast-iron pipe..... | 70.5 | 65.1 | 60.3 | 55.4 | 69.8 | 62.5 | 55.3 | 50.8 |
| Structural ironwork..... | 100.9 | 87.7 | 84.7 | 83.6 | 103.2 | 83.5 | 75.9 | 75.5 |
| Foundry and machine-shop products..... | 99.3 | 78.2 | 75.6 | 74.8 | 100.2 | 67.3 | 60.9 | 62.2 |
| Hardware..... | 87.4 | 73.7 | 72.2 | 71.8 | 88.2 | 61.2 | 58.9 | 58.4 |
| Machine tools..... | 124.6 | 86.0 | 81.2 | 78.3 | 131.1 | 71.9 | 63.7 | 62.3 |
| Steam fittings and steam and hot-water heating apparatus..... | 74.0 | 62.9 | 63.0 | 61.7 | 69.6 | 56.2 | 53.7 | 52.7 |
| Stoves..... | 84.7 | 73.9 | 71.2 | 61.9 | 81.8 | 65.0 | 57.0 | 47.6 |
| Lumber and its products | 81.2 | 64.0 | 61.3 | 58.2 | 81.2 | 59.3 | 53.8 | 49.6 |
| Lumber, sawmills..... | 79.8 | 61.8 | 58.8 | 55.3 | 81.7 | 57.5 | 52.2 | 47.4 |
| Lumber, millwork..... | 70.4 | 58.9 | 57.7 | 57.2 | 68.6 | 54.7 | 51.5 | 50.4 |
| Furniture..... | 91.7 | 72.8 | 70.0 | 66.2 | 88.4 | 66.0 | 58.6 | 53.6 |
| Leather and its products | 89.1 | 82.2 | 76.2 | 73.8 | 81.4 | 67.4 | 53.3 | 56.3 |
| Leather..... | 92.4 | 83.2 | 80.1 | 76.4 | 93.4 | 79.3 | 74.6 | 71.7 |
| Boots and shoes..... | 88.3 | 82.0 | 75.2 | 73.1 | 77.9 | 64.0 | 47.2 | 51.9 |
| Paper and printing | 103.8 | 96.0 | 95.7 | 95.7 | 109.4 | 97.7 | 97.3 | 97.9 |
| Paper and pulp..... | 95.5 | 87.0 | 84.9 | 84.9 | 98.6 | 82.9 | 80.0 | 79.3 |
| Paper boxes..... | 99.9 | 91.5 | 90.9 | 87.7 | 106.4 | 95.2 | 92.9 | 87.4 |
| Printing, book and job..... | 106.1 | 95.6 | 95.9 | 98.0 | 109.9 | 96.3 | 97.0 | 99.8 |
| Printing, newspapers..... | 112.0 | 108.2 | 109.2 | 108.4 | 117.7 | 110.5 | 111.6 | 112.4 |
| Chemicals and allied products | 98.8 | 89.3 | 86.4 | 85.9 | 103.0 | 90.3 | 86.5 | 85.2 |
| Chemicals..... | 102.0 | 94.5 | 93.5 | 92.2 | 106.3 | 92.8 | 91.0 | 89.7 |
| Fertilizers..... | 83.3 | 80.6 | 73.6 | 74.9 | 84.9 | 77.5 | 69.6 | 70.2 |
| Petroleum refining..... | 100.1 | 86.2 | 82.7 | 82.5 | 102.9 | 90.1 | 85.1 | 83.6 |
| Stone, clay, and glass products | 79.6 | 70.8 | 68.1 | 64.3 | 78.7 | 65.1 | 59.8 | 55.3 |
| Cement..... | 72.5 | 74.1 | 68.4 | 62.7 | 73.2 | 72.2 | 60.4 | 54.0 |
| Brick, tile, and terra cotta..... | 70.1 | 61.9 | 58.6 | 53.8 | 66.0 | 54.4 | 48.2 | 42.8 |
| Pottery..... | 95.4 | 81.8 | 82.1 | 80.5 | 93.3 | 72.1 | 72.7 | 70.3 |
| Glass..... | 89.2 | 76.4 | 74.7 | 72.1 | 92.8 | 72.7 | 69.5 | 66.3 |
| Metal products, other than iron and steel | 88.7 | 73.9 | 73.3 | 72.4 | 87.4 | 66.9 | 64.4 | 64.3 |
| Stamped and enameled ware..... | 82.8 | 74.2 | 73.8 | 72.0 | 78.1 | 69.2 | 66.4 | 64.6 |
| Brass, bronze, and copper products..... | 91.5 | 73.8 | 73.1 | 72.6 | 91.1 | 66.0 | 63.6 | 64.2 |
| Tobacco products | 91.4 | 90.0 | 89.1 | 86.9 | 94.0 | 82.5 | 81.3 | 82.2 |
| Chewing and smoking tobacco and snuff..... | 94.6 | 88.4 | 87.5 | 87.7 | 93.0 | 79.7 | 81.0 | 82.3 |
| Cigars and cigarettes..... | 91.0 | 90.2 | 89.3 | 86.8 | 94.1 | 82.8 | 81.3 | 82.2 |
| Vehicles for land transportation | 83.7 | 68.4 | 66.4 | 66.8 | 84.1 | 61.1 | 59.0 | 58.8 |
| Automobiles..... | 81.4 | 71.2 | 69.5 | 70.6 | 70.9 | 56.8 | 55.9 | 54.0 |
| Carriages and wagons..... | 66.7 | 52.9 | 44.0 | 39.5 | 69.4 | 55.1 | 46.5 | 40.1 |
| Car building and repairing, electric-railroad..... | 90.6 | 84.8 | 84.0 | 80.5 | 95.8 | 82.3 | 82.2 | 79.8 |
| Car building and repairing, steam-railroad..... | 85.5 | 64.7 | 62.5 | 62.6 | 97.0 | 63.9 | 60.5 | 62.4 |
| Miscellaneous industries | 106.2 | 86.9 | 84.1 | 83.0 | 108.1 | 81.3 | 76.9 | 76.0 |
| Agricultural implements..... | 114.4 | 70.7 | 71.2 | 72.9 | 119.3 | 57.5 | 57.2 | 59.0 |
| Electrical machinery, apparatus, and supplies..... | 117.8 | 94.4 | 91.8 | 89.2 | 123.2 | 91.7 | 87.0 | 83.6 |
| Pianos and organs..... | 57.1 | 50.1 | 48.8 | 46.8 | 55.5 | 43.8 | 42.5 | 39.5 |
| Rubber boots and shoes..... | 100.3 | 75.7 | 75.9 | 76.0 | 104.9 | 64.2 | 62.3 | 65.2 |
| Automobile tires and inner tubes..... | 79.4 | 69.9 | 66.4 | 67.1 | 70.9 | 59.2 | 51.5 | 55.2 |
| Shipbuilding..... | 115.5 | 110.6 | 104.2 | 105.0 | 120.8 | 106.1 | 104.7 | 105.3 |

Index numbers of employment and pay-roll totals for each of the 54 industries included in the bureau's indexes and for each of the 12 groups of industries are shown in Table 7 for each month of 1930, together with average indexes for each of the years from 1923 to 1930, inclusive.

The average general index of employment for the 12 months of 1930 for the 54 industries combined was 14.2 per cent below the average index for 1929, and the pay-roll total index was 20.0 per cent lower than the average index for 1929.

In computing the general indexes and the group indexes the index numbers of separate industries are weighted according to the relative importance of the industries.

Following Table 7 are two charts which represent the 54 separate industries combined and show the course of pay-roll totals as well as the course of employment for each month of the years 1926 to 1930, inclusive.

TABLE 7.—INDEXES OF EMPLOYMENT AND PAY-ROLL TOTALS IN MANUFACTURING INDUSTRIES—JANUARY TO DECEMBER, 1930, AND YEARLY AVERAGES, 1923 TO 1930

[Monthly average, 1926=100]

| Year and month | General index | | Food and kindred products | | | | | | | |
|--|----------------------|------------------------|---------------------------|-------------------------|-------------------------------|------------------------|----------------------|------------------------|----------------------|------------------------|
| | | | Group index | | Slaughtering and meat packing | | Confectionery | | Ice cream | |
| | Em- plov- ment | Pay- roll totals | Em- plov- ment | Pay- roll totals | Em- plov- ment | Pay- roll totals | Em- plov- ment | Pay- roll totals | Em- plov- ment | Pay- roll totals |
| 1923 average..... | 108.8 | 104.3 | 111.1 | 106.3 | 122.9 | 118.4 | 116.3 | 107.0 | 103.9 | 95.8 |
| 1924 average..... | 98.2 | 94.6 | 106.4 | 104.4 | 115.1 | 111.8 | 103.2 | 99.9 | 100.3 | 93.1 |
| 1925 average..... | 99.2 | 97.7 | 101.2 | 99.9 | 104.4 | 102.6 | 98.1 | 96.4 | 101.3 | 98.3 |
| 1926 average..... | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| 1927 average..... | 96.4 | 96.5 | 99.4 | 100.0 | 99.5 | 99.9 | 96.5 | 97.9 | 94.0 | 93.4 |
| 1928 average..... | 93.8 | 94.5 | 98.4 | 99.8 | 99.5 | 101.0 | 93.0 | 93.3 | 92.4 | 93.1 |
| 1929 average..... | 97.5 | 100.4 | 99.4 | 101.7 | 101.0 | 103.2 | 92.3 | 94.1 | 91.9 | 93.0 |
| 1930 average..... | 83.7 | 80.3 | 94.5 | 97.0 | 97.1 | 100.2 | 85.9 | 86.2 | 87.6 | 87.5 |
| 1930 | | | | | | | | | | |
| January..... | 90.2 | 87.6 | 97.3 | 99.9 | 103.7 | 106.6 | 91.7 | 93.3 | 76.7 | 76.6 |
| February..... | 90.3 | 90.7 | 96.5 | 99.0 | 102.7 | 104.4 | 88.1 | 90.4 | 77.3 | 75.4 |
| March..... | 89.8 | 90.8 | 94.8 | 97.2 | 97.8 | 99.0 | 86.2 | 88.0 | 80.5 | 78.8 |
| April..... | 89.1 | 89.8 | 93.7 | 97.1 | 95.2 | 98.8 | 83.3 | 85.1 | 86.2 | 87.2 |
| May..... | 87.7 | 87.6 | 94.3 | 98.0 | 95.8 | 99.9 | 80.4 | 80.8 | 97.6 | 99.3 |
| June..... | 85.5 | 84.1 | 95.3 | 99.6 | 98.6 | 102.4 | 79.2 | 82.6 | 99.2 | 100.2 |
| July..... | 81.6 | 75.9 | 94.7 | 97.6 | 96.8 | 100.7 | 76.6 | 73.7 | 102.8 | 102.4 |
| August..... | 79.9 | 73.9 | 92.6 | 95.1 | 94.3 | 96.8 | 75.4 | 75.2 | 101.1 | 100.4 |
| September..... | 79.7 | 74.2 | 94.9 | 98.1 | 94.3 | 98.9 | 91.2 | 93.9 | 92.0 | 92.6 |
| October..... | 78.6 | 72.7 | 94.5 | 95.9 | 94.1 | 97.6 | 95.3 | 93.3 | 84.1 | 83.8 |
| November..... | 76.5 | 68.3 | 93.3 | 94.0 | 95.5 | 98.9 | 92.5 | 87.6 | 77.9 | 78.6 |
| December..... | 75.1 | 67.4 | 92.1 | 92.4 | 96.1 | 98.6 | 90.6 | 90.3 | 75.3 | 74.2 |
| Food and kindred products—Continued | | | | | | | | | | |
| Textiles and their products | | | | | | | | | | |
| Flour | | Baking | | Sugar refining, cane | | Group index | | Cotton goods | | |
| 1923 average..... | 114.2 | 110.9 | 99.2 | 94.8 | 106.8 | 104.6 | 116.1 | 116.4 | 120.3 | 123.5 |
| 1924 average..... | 108.1 | 108.2 | 100.5 | 98.4 | 104.6 | 105.4 | 102.4 | 101.0 | 99.9 | 99.6 |
| 1925 average..... | 103.1 | 102.5 | 98.7 | 97.1 | 104.5 | 104.6 | 103.7 | 104.2 | 101.1 | 101.1 |
| 1926 average..... | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| 1927 average..... | 99.3 | 99.4 | 101.4 | 102.2 | 98.8 | 98.8 | 101.3 | 103.0 | 105.0 | 108.5 |
| 1928 average..... | 100.0 | 102.1 | 100.9 | 101.6 | 91.1 | 94.9 | 96.3 | 95.6 | 95.2 | 91.7 |
| 1929 average..... | 102.1 | 105.3 | 102.1 | 103.5 | 94.0 | 98.5 | 97.0 | 97.2 | 95.5 | 94.3 |
| 1930 average..... | 97.0 | 99.9 | 96.8 | 98.5 | 91.6 | 94.4 | 83.7 | 77.0 | 80.6 | 73.3 |
| 1930 | | | | | | | | | | |
| January..... | 100.2 | 103.3 | 97.7 | 100.0 | 90.6 | 95.0 | 91.9 | 88.4 | 90.4 | 85.5 |
| February..... | 101.0 | 104.8 | 97.7 | 100.3 | 89.9 | 92.0 | 91.9 | 89.7 | 88.7 | 84.6 |
| March..... | 100.0 | 104.9 | 97.0 | 99.2 | 93.8 | 100.4 | 90.5 | 88.8 | 87.7 | 82.7 |
| April..... | 95.9 | 100.7 | 97.3 | 100.0 | 94.8 | 94.0 | 88.7 | 83.2 | 86.9 | 82.2 |
| May..... | 95.0 | 98.2 | 97.8 | 100.4 | 97.4 | 102.8 | 85.9 | 78.2 | 83.9 | 77.7 |
| June..... | 95.5 | 100.9 | 98.9 | 101.6 | 93.5 | 99.4 | 83.7 | 75.1 | 81.3 | 73.5 |
| July..... | 97.7 | 99.5 | 98.1 | 99.8 | 99.8 | 103.6 | 77.6 | 67.3 | 75.9 | 64.8 |
| August..... | 97.5 | 101.0 | 96.1 | 96.9 | 92.6 | 94.8 | 77.8 | 69.4 | 72.9 | 61.5 |
| September..... | 97.6 | 101.0 | 97.1 | 99.2 | 91.3 | 95.5 | 79.9 | 73.6 | 74.5 | 64.6 |
| October..... | 97.1 | 99.4 | 96.1 | 97.0 | 87.3 | 89.0 | 80.1 | 73.7 | 74.5 | 66.8 |
| November..... | 93.8 | 93.6 | 94.6 | 95.1 | 88.0 | 87.1 | 78.7 | 69.0 | 75.4 | 66.8 |
| December..... | 92.1 | 91.5 | 93.3 | 92.4 | 79.8 | 79.2 | 77.1 | 68.1 | 74.7 | 69.1 |

TABLE 7.—INDEXES OF EMPLOYMENT AND PAY-ROLL TOTALS IN MANUFACTURING INDUSTRIES—JANUARY TO DECEMBER, 1930, AND YEARLY AVERAGES, 1923 TO 1930—Continued

| Year and month | Textiles and their products—Continued | | | | | | | | | |
|--|---------------------------------------|------------------------|----------------------|------------------------|--------------------------|------------------------|--------------------------|------------------------|-------------------------------|--|
| | Hosiery and knit goods | | Silk goods | | Woolen and worsted goods | | Carpets and rugs | | Dyeing and finishing textiles | |
| | Em- ploy- ment | Pay- roll totals | Em- ploy- ment | Pay- roll totals | Em- ploy- ment | Pay- roll totals | Em- ploy- ment | Pay- roll totals | Em- ploy- ment | Pay- roll totals |
| 1923 average..... | 102.1 | 91.3 | 99.8 | 93.9 | 124.5 | 126.7 | 106.5 | 110.1 | 102.1 | 99.9 |
| 1924 average..... | 92.6 | 82.9 | 94.1 | 88.6 | 113.3 | 114.1 | 98.1 | 95.2 | 94.0 | 91.8 |
| 1925 average..... | 100.2 | 96.4 | 103.1 | 102.7 | 110.7 | 110.6 | 100.7 | 101.2 | 101.7 | 102.3 |
| 1926 average..... | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| 1927 average..... | 99.0 | 102.2 | 98.4 | 99.2 | 99.7 | 100.6 | 102.5 | 104.1 | 100.9 | 102.8 |
| 1928 average..... | 94.7 | 97.3 | 96.9 | 100.2 | 95.0 | 94.4 | 101.0 | 95.9 | 99.5 | 101.0 |
| 1929 average..... | 98.1 | 104.3 | 98.0 | 100.9 | 96.0 | 96.3 | 106.8 | 101.4 | 101.8 | 102.2 |
| 1930 average..... | 87.5 | 84.6 | 86.5 | 81.7 | 77.7 | 72.7 | 81.9 | 66.0 | 93.0 | 87.9 |
| 1930 | | | | | | | | | | |
| January..... | 92.4 | 93.5 | 94.2 | 90.2 | 87.9 | 84.3 | 101.7 | 90.7 | 99.3 | 95.5 |
| February..... | 93.6 | 97.4 | 97.0 | 96.1 | 84.8 | 80.5 | 99.3 | 86.1 | 100.4 | 99.2 |
| March..... | 91.2 | 94.2 | 97.1 | 98.1 | 78.8 | 72.9 | 96.6 | 81.8 | 99.8 | 100.6 |
| April..... | 91.0 | 90.8 | 95.3 | 92.8 | 73.7 | 67.1 | 95.0 | 77.6 | 98.0 | 96.3 |
| May..... | 89.9 | 84.6 | 89.3 | 83.7 | 78.1 | 76.6 | 86.7 | 67.1 | 94.8 | 90.4 |
| June..... | 88.9 | 85.1 | 86.2 | 79.9 | 79.9 | 77.0 | 78.8 | 56.6 | 90.4 | 80.0 |
| July..... | 80.9 | 70.8 | 78.6 | 67.7 | 77.4 | 72.7 | 68.7 | 50.6 | 84.2 | 72.8 |
| August..... | 79.6 | 70.9 | 78.0 | 72.1 | 78.4 | 72.9 | 73.5 | 54.7 | 86.6 | 76.4 |
| September..... | 84.1 | 79.0 | 76.2 | 70.2 | 78.1 | 73.4 | 71.3 | 55.2 | 85.5 | 79.9 |
| October..... | 87.0 | 86.3 | 79.8 | 75.9 | 74.1 | 67.7 | 74.2 | 60.9 | 91.4 | 86.9 |
| November..... | 87.4 | 85.5 | 83.4 | 76.4 | 71.7 | 63.6 | 71.6 | 57.9 | 92.8 | 88.1 |
| December..... | 83.6 | 76.8 | 82.5 | 77.8 | 69.7 | 64.2 | 65.1 | 52.6 | 93.1 | 88.1 |
| Textiles and their products—Continued | | | | | | | | | | Iron and steel and their products |
| | Clothing, men's | | Shirts and collars | | Clothing, women's | | Millinery and lace goods | | Group index | |
| | Em- ploy- ment | Pay- roll totals | Em- ploy- ment | Pay- roll totals | Em- ploy- ment | Pay- roll totals | Em- ploy- ment | Pay- roll totals | Em- ploy- ment | Pay- roll totals |
| 1923 average..... | 118.6 | 128.4 | 118.9 | 117.1 | 126.3 | 124.4 | 138.1 | 133.1 | 108.5 | 102.7 |
| 1924 average..... | 106.9 | 111.0 | 100.6 | 97.5 | 111.9 | 108.6 | 120.3 | 117.1 | 93.8 | 89.1 |
| 1925 average..... | 103.1 | 105.8 | 103.3 | 103.2 | 105.6 | 109.3 | 117.1 | 115.8 | 95.0 | 91.3 |
| 1926 average..... | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| 1927 average..... | 97.8 | 97.3 | 95.0 | 96.3 | 105.4 | 107.4 | 95.6 | 96.8 | 93.2 | 91.9 |
| 1928 average..... | 92.2 | 89.0 | 92.2 | 89.9 | 105.4 | 105.2 | 93.6 | 92.7 | 91.5 | 92.8 |
| 1929 average..... | 91.9 | 88.2 | 92.7 | 90.8 | 105.4 | 105.1 | 93.1 | 91.1 | 98.9 | 102.6 |
| 1930 average..... | 80.4 | 67.9 | 81.1 | 70.9 | 94.2 | 87.2 | 85.1 | 78.4 | 84.8 | 79.2 |
| 1930 | | | | | | | | | | |
| January..... | 88.5 | 82.6 | 90.3 | 83.1 | 98.6 | 97.6 | 90.3 | 84.8 | 91.7 | 88.3 |
| February..... | 89.7 | 83.4 | 90.8 | 85.6 | 100.0 | 99.9 | 95.5 | 94.8 | 92.9 | 93.5 |
| March..... | 86.8 | 79.0 | 89.3 | 81.3 | 106.3 | 109.9 | 99.9 | 101.9 | 92.1 | 92.8 |
| April..... | 81.9 | 67.2 | 86.9 | 76.8 | 103.8 | 97.5 | 97.7 | 97.6 | 91.9 | 92.8 |
| May..... | 78.6 | 61.4 | 81.5 | 67.9 | 98.9 | 86.7 | 89.5 | 84.0 | 90.6 | 89.5 |
| June..... | 81.6 | 69.3 | 79.9 | 67.7 | 90.5 | 75.5 | 80.3 | 70.0 | 88.0 | 85.2 |
| July..... | 79.7 | 70.2 | 76.1 | 65.2 | 77.9 | 65.6 | 70.1 | 55.3 | 84.0 | 74.5 |
| August..... | 79.7 | 71.9 | 74.3 | 64.5 | 85.0 | 75.4 | 80.2 | 71.0 | 80.5 | 71.7 |
| September..... | 81.3 | 69.2 | 77.0 | 65.5 | 95.4 | 93.6 | 85.7 | 85.0 | 79.4 | 69.7 |
| October..... | 77.0 | 60.0 | 78.1 | 68.2 | 96.9 | 94.0 | 83.1 | 74.4 | 77.6 | 68.5 |
| November..... | 70.9 | 50.7 | 77.1 | 65.4 | 88.8 | 76.1 | 74.8 | 61.2 | 75.4 | 62.1 |
| December..... | 68.9 | 49.9 | 72.0 | 59.0 | 88.8 | 74.4 | 74.0 | 61.1 | 74.0 | 61.4 |

TABLE 7.—INDEXES TO EMPLOYMENT AND PAY-ROLL TOTALS IN MANUFACTURING INDUSTRIES—JANUARY TO DECEMBER, 1930, AND YEARLY AVERAGES, 1923 TO 1930—Continued

| Year and month | Iron and steel and their products—Continued | | | | | | | | | |
|---|---|--|----------------------|------------------------|----------------------|------------------------|-----------------------------------|------------------------|----------------------|------------------------|
| | Iron and steel | | Cast-iron pipe | | Structural ironwork | | Foundry and machine-shop products | | Hardware | |
| | Em- ploy- ment | Pay- roll totals | Em- ploy- ment | Pay- roll totals | Em- ploy- ment | Pay- roll totals | Em- ploy- ment | Pay- roll totals | Em- ploy- ment | Pay- roll totals |
| 1923 average..... | 102.1 | 97.3 | 94.3 | 92.8 | 100.8 | 93.9 | 115.3 | 110.7 | 113.4 | 102.0 |
| 1924 average..... | 95.4 | 91.3 | 98.2 | 97.8 | 91.7 | 86.3 | 93.0 | 87.2 | 104.2 | 95.7 |
| 1925 average..... | 97.9 | 96.4 | 95.6 | 96.2 | 92.5 | 91.5 | 93.1 | 90.6 | 103.6 | 98.4 |
| 1926 average..... | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| 1927 average..... | 92.9 | 91.4 | 89.8 | 88.1 | 94.9 | 95.0 | 93.8 | 92.4 | 92.2 | 90.9 |
| 1928 average..... | 90.9 | 92.7 | 80.1 | 75.6 | 95.0 | 97.9 | 92.3 | 92.8 | 88.9 | 88.4 |
| 1929 average..... | 94.7 | 99.3 | 76.1 | 75.5 | 102.1 | 104.4 | 104.3 | 108.1 | 91.9 | 93.7 |
| 1930 average..... | 84.5 | 79.8 | 67.4 | 65.6 | 92.2 | 89.0 | 87.8 | 81.5 | 78.8 | 68.5 |
| 1930 | | | | | | | | | | |
| January..... | 88.7 | 85.1 | 66.7 | 60.2 | 97.4 | 94.2 | 97.3 | 94.5 | 87.8 | 82.5 |
| February..... | 90.8 | 93.8 | 67.6 | 65.6 | 94.7 | 93.3 | 97.8 | 97.8 | 86.7 | 84.0 |
| March..... | 90.3 | 93.1 | 70.3 | 71.2 | 93.7 | 92.5 | 97.0 | 97.5 | 85.2 | 79.1 |
| April..... | 90.8 | 94.3 | 72.1 | 74.5 | 94.7 | 96.3 | 96.4 | 96.8 | 83.4 | 74.8 |
| May..... | 90.7 | 92.0 | 72.5 | 75.2 | 95.4 | 96.3 | 94.0 | 92.1 | 82.2 | 73.2 |
| June..... | 87.7 | 87.0 | 72.8 | 72.6 | 96.0 | 95.9 | 91.3 | 87.5 | 79.7 | 68.3 |
| July..... | 83.9 | 74.4 | 70.3 | 67.6 | 95.6 | 88.5 | 87.2 | 77.5 | 76.1 | 61.3 |
| August..... | 80.8 | 72.5 | 68.5 | 66.0 | 92.0 | 90.2 | 82.7 | 73.0 | 73.1 | 59.8 |
| September..... | 79.0 | 70.0 | 67.1 | 65.5 | 91.0 | 85.7 | 81.3 | 70.5 | 74.1 | 60.2 |
| October..... | 78.3 | 70.3 | 65.1 | 62.5 | 87.7 | 83.5 | 78.2 | 67.3 | 73.7 | 61.2 |
| November..... | 76.8 | 63.5 | 60.3 | 55.3 | 84.7 | 75.9 | 75.6 | 60.9 | 72.2 | 58.9 |
| December..... | 75.6 | 61.8 | 55.4 | 50.8 | 83.6 | 75.5 | 74.8 | 62.2 | 71.8 | 58.4 |
| Iron and steel and their products—Contd. | | | | | | | | | | |
| Lumber and its products | | | | | | | | | | |
| Machine tools | | Steam fittings and steam and hot-water heating apparatus | | Stoves | | Group index | | Lumber, sawmills | | |
| 1923 average..... | 98.1 | 88.5 | 103.3 | 98.0 | 116.3 | 113.9 | 110.0 | 102.4 | 115.1 | 106.5 |
| 1924 average..... | 82.0 | 74.9 | 98.6 | 95.4 | 100.3 | 101.0 | 104.4 | 99.6 | 108.0 | 102.8 |
| 1925 average..... | 85.8 | 83.4 | 100.1 | 97.4 | 97.8 | 97.8 | 102.5 | 100.4 | 103.6 | 101.7 |
| 1926 average..... | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| 1927 average..... | 92.8 | 92.2 | 92.5 | 91.9 | 91.2 | 90.4 | 91.9 | 93.1 | 91.0 | 92.4 |
| 1928 average..... | 100.8 | 107.5 | 82.2 | 81.9 | 87.6 | 84.7 | 87.8 | 88.8 | 86.7 | 88.0 |
| 1929 average..... | 129.8 | 139.8 | 78.5 | 78.8 | 90.8 | 87.3 | 87.9 | 88.9 | 85.9 | 86.9 |
| 1930 average..... | 98.7 | 90.2 | 65.2 | 58.7 | 74.3 | 64.1 | 68.9 | 64.7 | 67.7 | 65.0 |
| 1930 | | | | | | | | | | |
| January..... | 119.6 | 118.2 | 69.6 | 63.9 | 73.1 | 64.9 | 76.4 | 71.5 | 74.7 | 70.6 |
| February..... | 116.5 | 114.9 | 71.6 | 68.3 | 80.8 | 73.0 | 74.7 | 71.3 | 72.5 | 69.8 |
| March..... | 114.3 | 113.9 | 70.1 | 66.0 | 80.0 | 73.4 | 74.8 | 73.4 | 73.7 | 74.7 |
| April..... | 110.4 | 107.6 | 68.8 | 65.0 | 79.4 | 70.7 | 74.1 | 72.7 | 73.7 | 75.4 |
| May..... | 107.2 | 102.8 | 67.7 | 61.7 | 78.1 | 68.4 | 73.2 | 72.2 | 73.5 | 75.2 |
| June..... | 104.1 | 98.2 | 62.7 | 56.4 | 77.6 | 70.3 | 71.6 | 70.0 | 71.7 | 73.1 |
| July..... | 95.6 | 84.0 | 60.4 | 53.0 | 69.7 | 55.9 | 68.1 | 62.1 | 68.1 | 64.7 |
| August..... | 82.6 | 69.8 | 62.0 | 54.0 | 73.0 | 60.0 | 66.3 | 60.6 | 65.4 | 60.1 |
| September..... | 88.8 | 74.9 | 62.4 | 53.8 | 72.7 | 63.1 | 64.2 | 59.8 | 62.7 | 59.0 |
| October..... | 86.0 | 71.9 | 62.9 | 56.2 | 73.9 | 65.0 | 64.0 | 59.3 | 61.8 | 57.5 |
| November..... | 81.2 | 63.7 | 63.0 | 53.7 | 71.2 | 57.0 | 61.3 | 53.8 | 58.8 | 52.2 |
| December..... | 78.3 | 62.3 | 61.7 | 52.7 | 61.9 | 47.6 | 58.2 | 49.6 | 55.3 | 47.4 |

TABLE 7.—INDEXES OF EMPLOYMENT AND PAY-ROLL TOTALS IN MANUFACTURING INDUSTRIES—JANUARY TO DECEMBER, 1930, AND YEARLY AVERAGES, 1923 TO 1930—Continued

| Year and month | Lumber and its products— Continued | | | | Leather and its products | | | | | |
|---------------------------|---------------------------------------|------------------------|----------------------|------------------------|--------------------------|------------------------|---------------------------|------------------------|---------------------------|------------------------|
| | Lumber, mill- work | | Furniture | | Group index | | Leather | | Boots and shoes | |
| | Em- ploy- ment | Pay- roll totals | Em- ploy- ment | Pay- roll totals | Em- ploy- ment | Pay- roll totals | Em- ploy- ment | Pay- roll totals | Em- ploy- ment | Pay- roll totals |
| 1923 average..... | 101.5 | 95.5 | 100.4 | 94.2 | 110.7 | 113.9 | 109.6 | 107.0 | 111.1 | 117.0 |
| 1924 average..... | 101.2 | 98.0 | 95.2 | 90.7 | 100.3 | 100.6 | 96.9 | 95.7 | 101.6 | 102.8 |
| 1925 average..... | 103.0 | 101.8 | 99.1 | 95.6 | 101.9 | 101.8 | 98.7 | 97.5 | 102.9 | 103.6 |
| 1926 average..... | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| 1927 average..... | 89.2 | 89.2 | 96.1 | 98.2 | 97.9 | 97.4 | 98.4 | 97.2 | 97.7 | 97.6 |
| 1928 average..... | 85.5 | 85.6 | 92.5 | 93.2 | 92.8 | 89.7 | 95.4 | 93.7 | 91.9 | 88.0 |
| 1929 average..... | 83.1 | 82.8 | 95.9 | 97.0 | 92.8 | 89.9 | 92.2 | 93.2 | 92.9 | 89.0 |
| 1930 average..... | 63.9 | 61.0 | 75.2 | 66.6 | 85.0 | 72.9 | 85.2 | 83.0 | 85.0 | 70.1 |
| 1930 | | | | | | | | | | |
| January..... | 68.9 | 63.8 | 85.5 | 78.4 | 90.4 | 82.5 | 90.5 | 90.3 | 90.4 | 80.3 |
| February..... | 70.1 | 67.1 | 83.3 | 77.2 | 91.4 | 83.3 | 89.9 | 90.3 | 91.8 | 81.3 |
| March..... | 68.2 | 66.7 | 81.7 | 75.3 | 90.5 | 82.2 | 89.1 | 87.3 | 90.9 | 80.8 |
| April..... | 68.0 | 67.3 | 78.7 | 70.8 | 88.9 | 78.9 | 88.3 | 86.2 | 89.1 | 76.8 |
| May..... | 68.3 | 69.2 | 75.6 | 68.2 | 85.8 | 73.1 | 86.8 | 85.5 | 85.6 | 69.6 |
| June..... | 66.5 | 67.0 | 74.4 | 65.6 | 83.6 | 71.4 | 85.0 | 83.9 | 83.3 | 67.8 |
| July..... | 63.6 | 59.5 | 70.7 | 58.7 | 85.7 | 76.0 | 84.4 | 82.2 | 86.0 | 74.2 |
| August..... | 61.7 | 59.2 | 71.6 | 62.7 | 86.5 | 77.3 | 84.6 | 83.5 | 87.0 | 75.5 |
| September..... | 58.2 | 55.2 | 71.9 | 64.5 | 85.1 | 73.6 | 84.1 | 81.5 | 85.4 | 71.4 |
| October..... | 58.9 | 54.7 | 72.8 | 66.0 | 82.2 | 67.4 | 83.2 | 79.3 | 82.0 | 64.0 |
| November..... | 57.7 | 51.5 | 70.0 | 58.6 | 76.2 | 53.3 | 80.1 | 74.6 | 75.2 | 47.2 |
| December..... | 57.2 | 50.4 | 66.2 | 53.6 | 73.8 | 56.3 | 76.4 | 71.7 | 73.1 | 51.9 |
| Paper and printing | | | | | | | | | | |
| | Group index | | Paper and pulp | | Paper boxes | | Printing, book and job | | Printing, news- papers | |
| | Em- ploy- ment | Pay- roll totals | Em- ploy- ment | Pay- roll totals | Em- ploy- ment | Pay- roll totals | Em- ploy- ment | Pay- roll totals | Em- ploy- ment | Pay- roll totals |
| 1923 average..... | 96.5 | 89.7 | 104.6 | 97.6 | 98.9 | 91.3 | 96.1 | 87.8 | 89.5 | 84.5 |
| 1924 average..... | 96.7 | 91.7 | 98.6 | 94.4 | 98.2 | 93.3 | 97.9 | 90.8 | 93.1 | 89.7 |
| 1925 average..... | 97.3 | 94.3 | 98.7 | 96.8 | 98.8 | 95.6 | 97.5 | 93.1 | 95.4 | 93.0 |
| 1926 average..... | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| 1927 average..... | 100.1 | 101.2 | 97.5 | 96.6 | 96.8 | 99.0 | 100.3 | 102.1 | 103.4 | 104.6 |
| 1928 average..... | 99.2 | 101.5 | 94.4 | 94.9 | 94.0 | 99.4 | 99.2 | 101.6 | 105.2 | 107.4 |
| 1929 average..... | 101.3 | 106.0 | 95.5 | 98.2 | 96.0 | 103.3 | 102.6 | 105.8 | 108.3 | 112.8 |
| 1930 average..... | 98.3 | 101.9 | 91.3 | 89.8 | 89.7 | 92.9 | 99.5 | 102.6 | 108.5 | 112.3 |
| 1930 | | | | | | | | | | |
| January..... | 102.1 | 106.3 | 96.0 | 96.4 | 92.8 | 96.4 | 104.9 | 108.5 | 109.8 | 114.0 |
| February..... | 101.0 | 106.3 | 96.1 | 99.2 | 90.9 | 95.3 | 102.8 | 107.2 | 109.2 | 113.6 |
| March..... | 100.8 | 106.5 | 95.6 | 98.5 | 90.6 | 96.3 | 102.6 | 107.2 | 109.2 | 114.3 |
| April..... | 99.7 | 105.1 | 94.9 | 97.5 | 89.3 | 93.2 | 100.5 | 104.2 | 109.0 | 114.6 |
| May..... | 99.6 | 104.9 | 94.6 | 96.1 | 87.8 | 90.9 | 100.8 | 105.6 | 109.1 | 114.3 |
| June..... | 98.6 | 103.6 | 93.8 | 94.1 | 88.0 | 92.1 | 99.2 | 104.3 | 108.2 | 113.0 |
| July..... | 97.6 | 99.4 | 89.9 | 84.0 | 87.4 | 90.4 | 100.3 | 102.6 | 107.8 | 109.8 |
| August..... | 96.9 | 99.0 | 90.0 | 86.3 | 89.0 | 90.7 | 98.3 | 100.5 | 106.5 | 109.0 |
| September..... | 95.9 | 98.5 | 88.0 | 83.6 | 90.6 | 93.6 | 95.3 | 98.4 | 107.5 | 110.8 |
| October..... | 96.0 | 97.7 | 87.0 | 82.9 | 91.5 | 95.2 | 95.6 | 96.3 | 108.2 | 110.5 |
| November..... | 95.7 | 97.3 | 84.9 | 80.0 | 90.9 | 92.9 | 95.9 | 97.0 | 109.2 | 111.6 |
| December..... | 95.7 | 97.9 | 84.9 | 79.3 | 87.7 | 87.4 | 98.0 | 99.8 | 108.4 | 112.4 |

TABLE 7.—INDEXES OF EMPLOYMENT AND PAY-ROLL TOTALS IN MANUFACTURING INDUSTRIES—JANUARY TO DECEMBER, 1930, AND YEARLY AVERAGES, 1923 TO 1930—Continued

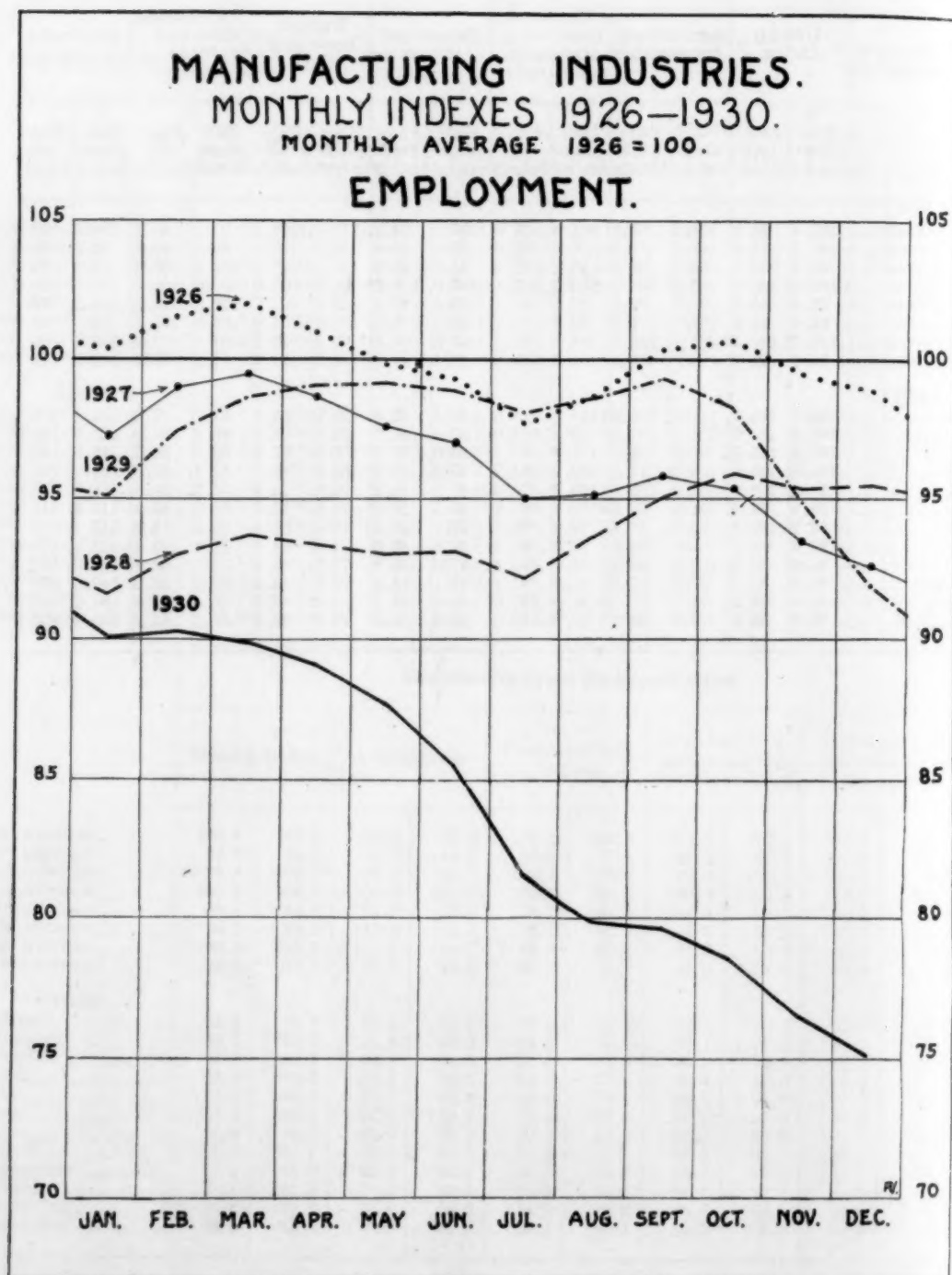
| Year and month | Chemicals and allied products | | | | | | | | Stone, clay, and glass products | |
|--|-------------------------------|------------------------|------------------------------|------------------------|----------------------|------------------------|----------------------|------------------------|--|------------------------|
| | Group index | | Chemicals | | Fertilizers | | Petroleum refining | | Group index | |
| | Em- ploy- ment | Pay- roll totals | Em- ploy- ment | Pay- roll totals | Em- ploy- ment | Pay- roll totals | Em- ploy- ment | Pay- roll totals | Em- ploy- ment | Pay- roll totals |
| 1923 average..... | 101.8 | 98.2 | 104.9 | 96.6 | 96.2 | 91.8 | 99.7 | 102.1 | 100.2 | 93.5 |
| 1924 average..... | 93.1 | 91.0 | 96.2 | 92.5 | 86.9 | 83.6 | 91.8 | 91.7 | 97.0 | 95.2 |
| 1925 average..... | 95.8 | 94.2 | 97.3 | 94.3 | 95.1 | 90.6 | 94.0 | 95.2 | 97.9 | 97.3 |
| 1926 average..... | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| 1927 average..... | 96.6 | 99.1 | 100.0 | 103.7 | 91.2 | 94.0 | 94.6 | 95.6 | 94.5 | 94.2 |
| 1928 average..... | 93.4 | 95.9 | 99.3 | 103.3 | 95.4 | 97.1 | 84.8 | 87.2 | 89.7 | 89.6 |
| 1929 average..... | 99.4 | 102.3 | 103.2 | 107.1 | 95.2 | 94.7 | 96.5 | 99.1 | 86.6 | 85.3 |
| 1930 average..... | 92.9 | 94.5 | 94.3 | 94.1 | 89.5 | 87.5 | 92.6 | 95.9 | 73.1 | 67.3 |
| 1930 | | | | | | | | | | |
| January..... | 98.4 | 99.1 | 98.7 | 100.0 | 92.4 | 89.8 | 100.0 | 99.8 | 72.3 | 66.1 |
| February..... | 98.6 | 100.2 | 97.1 | 98.4 | 99.4 | 93.4 | 100.1 | 103.0 | 72.9 | 69.0 |
| March..... | 102.2 | 102.1 | 95.6 | 99.0 | 139.0 | 122.5 | 98.2 | 101.5 | 75.9 | 72.2 |
| April..... | 101.7 | 102.0 | 94.4 | 96.5 | 145.7 | 139.9 | 96.1 | 100.7 | 78.6 | 75.7 |
| May..... | 93.0 | 97.0 | 94.0 | 96.0 | 84.9 | 88.6 | 94.5 | 99.3 | 79.1 | 75.5 |
| June..... | 89.8 | 95.5 | 93.1 | 94.9 | 62.8 | 70.7 | 94.4 | 100.3 | 77.9 | 74.7 |
| July..... | 89.3 | 91.8 | 91.6 | 89.6 | 65.6 | 71.0 | 94.1 | 97.4 | 72.8 | 64.5 |
| August..... | 89.7 | 91.6 | 92.4 | 90.1 | 70.1 | 70.7 | 92.9 | 96.6 | 72.3 | 65.0 |
| September..... | 91.0 | 92.2 | 93.9 | 91.5 | 84.4 | 86.3 | 89.9 | 93.8 | 72.1 | 65.0 |
| October..... | 89.3 | 90.3 | 94.5 | 92.8 | 80.6 | 77.5 | 86.2 | 90.1 | 70.8 | 65.1 |
| November..... | 86.4 | 86.5 | 93.5 | 91.0 | 73.6 | 69.6 | 82.7 | 85.1 | 68.1 | 59.8 |
| December..... | 85.9 | 85.2 | 92.2 | 89.7 | 74.9 | 70.2 | 82.5 | 83.6 | 64.3 | 55.3 |
| Stone, clay, and glass products—Continued | | | | | | | | | Metal products, other than iron and steel | |
| | Cement | | Brick, tile, and terra cotta | | Pottery | | Glass | | Group index | |
| | Em- ploy- ment | Pay- roll totals | Em- ploy- ment | Pay- roll totals | Em- ploy- ment | Pay- roll totals | Em- ploy- ment | Pay- roll totals | Em- ploy- ment | Pay- roll totals |
| 1923 average..... | 109.0 | 104.2 | 99.3 | 95.1 | 93.7 | 85.8 | 101.1 | 92.6 | 102.6 | 101.5 |
| 1924 average..... | 108.9 | 107.9 | 97.4 | 98.5 | 100.6 | 95.1 | 91.4 | 88.2 | 95.1 | 93.0 |
| 1925 average..... | 105.3 | 104.9 | 98.9 | 99.1 | 98.3 | 96.3 | 94.4 | 93.4 | 99.2 | 99.4 |
| 1926 average..... | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| 1927 average..... | 95.8 | 96.5 | 94.3 | 94.1 | 94.5 | 94.2 | 94.2 | 93.4 | 92.9 | 91.6 |
| 1928 average..... | 87.7 | 88.3 | 84.9 | 82.8 | 95.3 | 93.4 | 92.9 | 94.3 | 92.8 | 96.1 |
| 1929 average..... | 81.1 | 81.0 | 80.5 | 76.9 | 94.2 | 91.0 | 94.6 | 97.3 | 97.6 | 102.8 |
| 1930 average..... | 74.1 | 71.5 | 63.1 | 55.3 | 84.7 | 74.7 | 81.3 | 78.3 | 79.1 | 74.1 |
| 1930 | | | | | | | | | | |
| January..... | 66.0 | 61.2 | 58.9 | 50.2 | 91.8 | 83.8 | 85.2 | 82.9 | 83.7 | 81.4 |
| February..... | 66.1 | 63.7 | 57.7 | 50.6 | 92.4 | 86.5 | 89.0 | 89.8 | 85.2 | 85.1 |
| March..... | 71.5 | 69.9 | 61.5 | 55.5 | 91.0 | 85.4 | 91.9 | 90.7 | 85.1 | 84.5 |
| April..... | 77.3 | 77.7 | 67.0 | 61.8 | 90.6 | 84.6 | 90.3 | 89.8 | 83.8 | 82.6 |
| May..... | 81.4 | 81.9 | 69.5 | 63.9 | 86.4 | 76.6 | 88.2 | 87.8 | 82.1 | 78.5 |
| June..... | 83.4 | 87.1 | 69.4 | 64.1 | 83.1 | 71.4 | 84.6 | 84.1 | 80.8 | 78.7 |
| July..... | 80.3 | 77.2 | 67.4 | 57.5 | 76.3 | 62.1 | 74.8 | 68.3 | 78.4 | 68.9 |
| August..... | 80.5 | 77.8 | 66.1 | 57.7 | 80.0 | 65.0 | 72.9 | 67.7 | 76.3 | 67.5 |
| September..... | 77.6 | 75.1 | 64.8 | 57.0 | 80.4 | 65.8 | 75.4 | 70.1 | 74.4 | 65.9 |
| October..... | 74.1 | 72.2 | 61.9 | 54.4 | 81.8 | 72.1 | 76.4 | 72.7 | 73.9 | 66.9 |
| November..... | 68.4 | 60.4 | 58.6 | 48.2 | 82.1 | 72.7 | 74.7 | 69.5 | 73.3 | 64.4 |
| December..... | 62.7 | 54.0 | 53.8 | 42.8 | 80.5 | 70.3 | 72.1 | 66.3 | 72.4 | 64.3 |

TABLE 7.—INDEXES OF EMPLOYMENT AND PAY-ROLL TOTALS IN MANUFACTURING INDUSTRIES—JANUARY TO DECEMBER, 1930, AND YEARLY AVERAGES, 1923 TO 1930—Continued

| Year and month | Metal products, other than iron and steel—Continued | | | | Tobacco products | | | | | |
|---|---|------------------------|------------------------------------|------------------------|----------------------|------------------------|---|------------------------|--|------------------------|
| | Stamped and enameled ware | | Brass, bronze, and copper products | | Group index | | Chewing and smoking tobacco and snuff | | Cigars and cigarettes | |
| | Em- ploy- ment | Pay- roll totals | Em- ploy- ment | Pay- roll totals | Em- ploy- ment | Pay- roll totals | Em- ploy- ment | Pay- roll totals | Em- ploy- ment | Pay- roll totals |
| 1923 average..... | 105.2 | 109.3 | 101.3 | 98.9 | 116.9 | 114.0 | 105.4 | 100.1 | 118.3 | 115.9 |
| 1924 average..... | 94.7 | 93.2 | 95.2 | 92.9 | 109.8 | 108.9 | 105.2 | 101.2 | 110.4 | 109.9 |
| 1925 average..... | 99.0 | 100.2 | 99.2 | 99.1 | 107.5 | 105.7 | 97.0 | 98.3 | 109.0 | 106.7 |
| 1926 average..... | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| 1927 average..... | 88.9 | 90.6 | 94.5 | 92.0 | 98.1 | 97.1 | 97.7 | 97.7 | 98.1 | 97.0 |
| 1928 average..... | 88.8 | 90.4 | 94.4 | 98.0 | 96.0 | 93.5 | 95.2 | 94.1 | 96.0 | 93.4 |
| 1929 average..... | 90.4 | 91.1 | 101.1 | 107.4 | 93.6 | 92.8 | 89.3 | 89.6 | 94.2 | 93.2 |
| 1930 average..... | 77.9 | 71.8 | 79.7 | 74.9 | 89.5 | 84.1 | 89.5 | 87.7 | 89.5 | 83.7 |
| 1930 | | | | | | | | | | |
| January..... | 75.6 | 68.7 | 87.6 | 86.4 | 86.4 | 81.7 | 96.1 | 97.3 | 85.2 | 79.8 |
| February..... | 83.1 | 78.9 | 86.2 | 87.5 | 91.1 | 84.8 | 93.9 | 97.1 | 90.7 | 83.3 |
| March..... | 85.2 | 83.7 | 85.1 | 84.8 | 91.8 | 85.8 | 93.7 | 93.7 | 91.5 | 84.8 |
| April..... | 83.6 | 81.7 | 83.9 | 82.9 | 90.1 | 81.7 | 88.8 | 87.2 | 90.3 | 81.0 |
| May..... | 81.5 | 76.2 | 82.4 | 79.4 | 91.4 | 86.9 | 87.4 | 86.0 | 91.9 | 87.0 |
| June..... | 79.4 | 76.0 | 81.4 | 79.7 | 91.2 | 89.3 | 87.9 | 88.5 | 91.6 | 89.4 |
| July..... | 77.3 | 64.9 | 78.9 | 70.5 | 90.2 | 86.7 | 86.6 | 84.8 | 90.7 | 86.9 |
| August..... | 75.1 | 67.1 | 76.9 | 67.7 | 86.1 | 81.8 | 87.4 | 87.2 | 85.9 | 81.1 |
| September..... | 73.9 | 64.6 | 74.6 | 66.4 | 89.8 | 84.7 | 88.6 | 87.2 | 89.9 | 84.4 |
| October..... | 74.2 | 69.2 | 73.8 | 66.0 | 90.0 | 82.5 | 88.4 | 79.7 | 90.2 | 82.8 |
| November..... | 73.8 | 66.4 | 73.1 | 63.6 | 89.1 | 81.3 | 87.5 | 81.0 | 89.3 | 81.3 |
| December..... | 72.0 | 64.6 | 72.6 | 64.2 | 86.9 | 82.2 | 87.7 | 82.3 | 86.8 | 82.2 |
| Vehicles for land transportation | | | | | | | | | | |
| | Group index | | Automobiles | | Carriages and wagons | | Car building and repairing, electric-railroad | | Car building and repairing, steam-railroad | |
| | Em- ploy- ment | Pay- roll totals | Em- ploy- ment | Pay- roll totals | Em- ploy- ment | Pay- roll totals | Em- ploy- ment | Pay- roll totals | Em- ploy- ment | Pay- roll totals |
| 1923 average..... | 109.6 | 107.7 | 93.0 | 92.0 | 108.8 | 108.3 | 112.7 | 110.1 | 123.8 | 120.9 |
| 1924 average..... | 97.2 | 94.3 | 87.0 | 83.8 | 90.8 | 95.0 | 100.0 | 97.8 | 105.8 | 102.8 |
| 1925 average..... | 99.8 | 100.7 | 99.0 | 102.4 | 100.2 | 100.4 | 99.6 | 100.5 | 100.6 | 99.4 |
| 1926 average..... | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| 1927 average..... | 90.8 | 91.6 | 91.2 | 90.3 | 78.7 | 83.6 | 100.9 | 101.1 | 90.3 | 92.3 |
| 1928 average..... | 95.8 | 95.3 | 111.3 | 114.4 | 76.7 | 82.1 | 94.9 | 96.2 | 83.5 | 85.4 |
| 1929 average..... | 99.8 | 105.2 | 116.9 | 118.7 | 78.6 | 84.1 | 91.9 | 93.9 | 85.1 | 92.3 |
| 1930 average..... | 78.3 | 75.1 | 83.7 | 74.6 | 56.7 | 61.8 | 86.9 | 87.6 | 72.9 | 74.8 |
| 1930 | | | | | | | | | | |
| January..... | 85.6 | 79.4 | 87.7 | 72.0 | 62.3 | 66.2 | 90.5 | 92.9 | 83.5 | 86.1 |
| February..... | 86.5 | 89.0 | 91.8 | 90.2 | 64.2 | 70.7 | 90.1 | 91.3 | 81.6 | 87.8 |
| March..... | 86.0 | 89.9 | 93.1 | 94.6 | 65.3 | 73.8 | 89.2 | 92.4 | 79.5 | 85.1 |
| April..... | 86.8 | 91.5 | 96.1 | 98.1 | 64.5 | 71.6 | 89.4 | 92.6 | 78.5 | 84.8 |
| May..... | 87.0 | 90.7 | 97.5 | 98.9 | 63.0 | 70.1 | 88.5 | 91.3 | 77.7 | 82.3 |
| June..... | 82.7 | 83.1 | 90.9 | 86.8 | 59.5 | 67.0 | 87.6 | 91.3 | 75.2 | 78.8 |
| July..... | 77.0 | 70.3 | 82.9 | 70.4 | 56.8 | 63.7 | 86.5 | 86.3 | 71.1 | 69.1 |
| August..... | 73.9 | 64.1 | 78.0 | 56.5 | 54.8 | 60.7 | 86.0 | 85.5 | 69.4 | 70.4 |
| September..... | 71.9 | 64.2 | 75.0 | 60.7 | 53.8 | 55.7 | 85.5 | 83.2 | 68.3 | 66.4 |
| October..... | 68.4 | 61.1 | 71.2 | 56.8 | 52.9 | 55.1 | 84.8 | 82.3 | 64.7 | 63.9 |
| November..... | 66.4 | 59.0 | 69.5 | 55.9 | 44.0 | 46.5 | 84.0 | 82.2 | 62.5 | 60.5 |
| December..... | 66.8 | 58.8 | 70.6 | 54.0 | 39.5 | 40.1 | 80.5 | 79.8 | 62.6 | 62.4 |

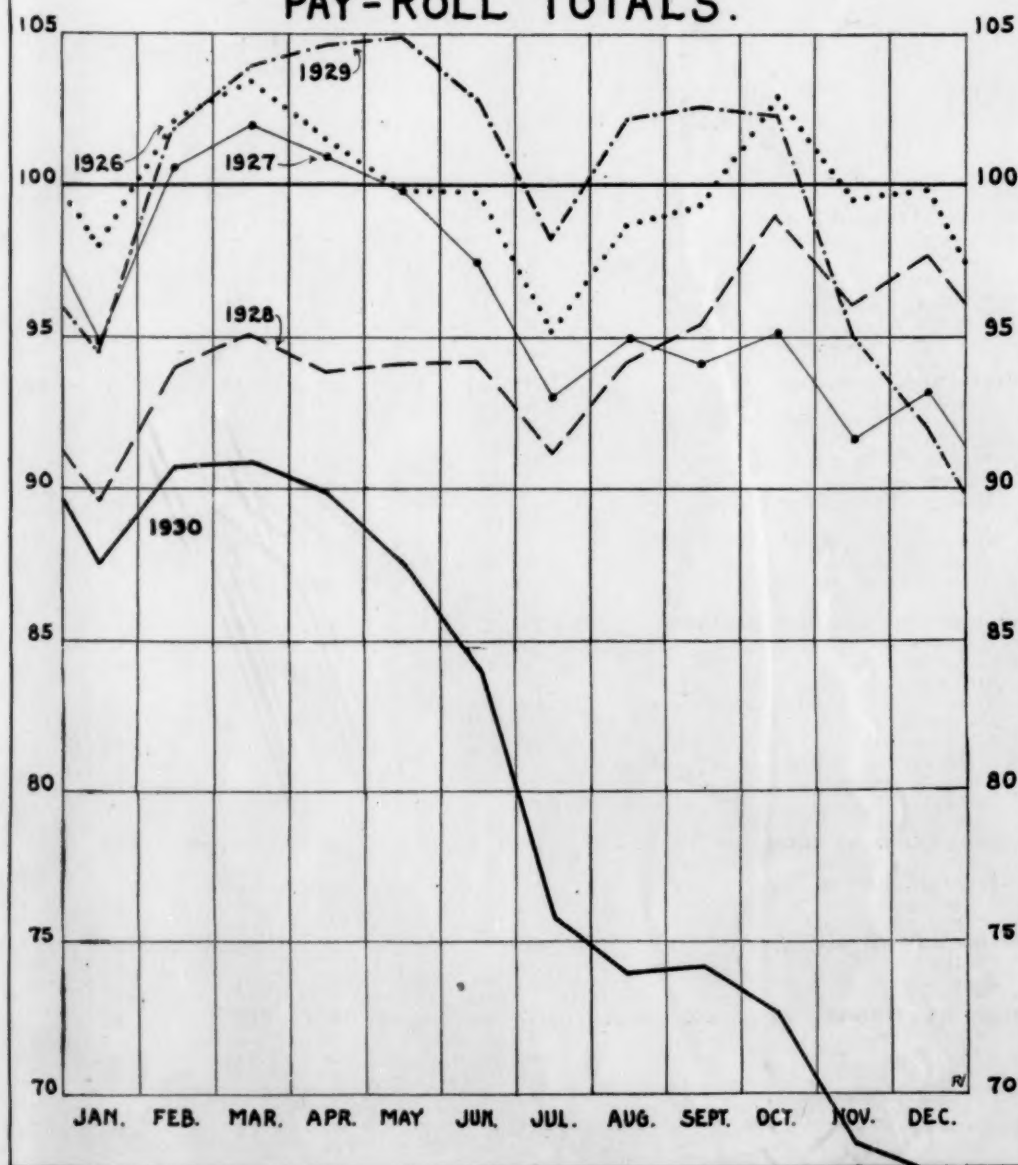
TABLE 7.—INDEXES OF EMPLOYMENT AND PAY-ROLL TOTALS IN MANUFACTURING INDUSTRIES—JANUARY TO DECEMBER, 1930, AND YEARLY AVERAGES, 1923 TO 1930—Continued

| Year and month | Miscellaneous industries | | | | | | | | | | | | | |
|-----------------|--------------------------|------------------------|-------------------------|------------------------|---|------------------------|----------------------|------------------------|------------------------|------------------------|----------------------------------|------------------------|----------------------|------------------------|
| | Group index | | Agricultural implements | | Electrical machinery, apparatus, and supplies | | Pianos and organs | | Rubber boots and shoes | | Automobile tires and inner tubes | | Shipbuilding | |
| | Em- ploy- ment | Pay- roll totals | Em- ploy- ment | Pay- roll totals | Em- ploy- ment | Pay- roll totals | Em- ploy- ment | Pay- roll totals | Em- ploy- ment | Pay- roll totals | Em- ploy- ment | Pay- roll totals | Em- ploy- ment | Pay- roll totals |
| 1923 average... | 103.3 | 98.1 | 101.3 | 89.8 | 101.3 | 97.0 | 105.3 | 94.9 | 116.7 | 107.2 | 91.1 | 88.2 | 108.6 | 103.0 |
| 1924 average... | 90.7 | 89.0 | 81.2 | 75.2 | 95.1 | 94.7 | 99.9 | 96.6 | 82.7 | 76.6 | 88.6 | 88.1 | 90.2 | 88.8 |
| 1925 average... | 94.6 | 92.8 | 93.6 | 90.8 | 92.1 | 92.2 | 98.9 | 97.8 | 97.1 | 97.7 | 102.2 | 100.4 | 92.6 | 90.3 |
| 1926 average... | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| 1927 average... | 99.5 | 100.9 | 91.9 | 92.2 | 95.1 | 95.7 | 90.4 | 87.4 | 103.3 | 107.7 | 97.3 | 98.2 | 104.8 | 105.8 |
| 1928 average... | 91.6 | 91.9 | 106.8 | 111.8 | 93.9 | 95.9 | 77.1 | 74.3 | 101.1 | 101.0 | 103.3 | 105.7 | 82.8 | 83.0 |
| 1929 average... | 110.7 | 112.3 | 121.1 | 125.3 | 118.3 | 121.5 | 66.6 | 63.8 | 97.6 | 99.3 | 104.1 | 101.8 | 105.3 | 108.1 |
| 1930 average... | 94.1 | 92.7 | 92.3 | 85.6 | 101.6 | 102.0 | 47.4 | 41.1 | 80.2 | 74.2 | 77.6 | 73.4 | 114.9 | 116.4 |
| 1930 | | | | | | | | | | | | | | |
| January..... | 105.2 | 105.7 | 118.1 | 119.9 | 114.9 | 118.3 | 47.5 | 42.3 | 94.9 | 95.8 | 81.7 | 77.6 | 121.1 | 120.9 |
| February..... | 103.6 | 105.7 | 121.3 | 126.4 | 112.1 | 115.0 | 50.6 | 45.1 | 92.5 | 93.0 | 80.2 | 81.9 | 121.0 | 124.6 |
| March..... | 102.9 | 105.5 | 122.0 | 128.6 | 111.3 | 115.2 | 50.0 | 45.1 | 89.5 | 87.8 | 80.3 | 80.7 | 119.6 | 124.8 |
| April..... | 101.8 | 105.4 | 114.7 | 117.5 | 109.2 | 114.2 | 49.2 | 42.9 | 86.0 | 83.3 | 83.1 | 87.0 | 121.7 | 125.9 |
| May..... | 98.6 | 102.8 | 107.0 | 102.8 | 105.1 | 110.9 | 47.5 | 42.1 | 78.1 | 75.9 | 85.3 | 89.8 | 118.0 | 125.4 |
| June..... | 95.9 | 97.2 | 91.5 | 81.3 | 102.3 | 107.4 | 45.5 | 38.8 | 74.5 | 70.3 | 86.1 | 83.1 | 117.3 | 119.0 |
| July..... | 90.9 | 87.9 | 79.4 | 63.8 | 97.9 | 96.5 | 42.7 | 35.2 | 72.4 | 65.3 | 80.1 | 75.8 | 112.7 | 113.3 |
| August..... | 88.5 | 84.3 | 69.1 | 56.8 | 95.2 | 91.3 | 42.8 | 36.0 | 74.6 | 64.6 | 77.4 | 72.4 | 113.7 | 114.8 |
| September..... | 88.0 | 83.8 | 69.8 | 56.0 | 95.5 | 93.3 | 47.0 | 39.9 | 72.7 | 63.1 | 73.4 | 66.1 | 113.3 | 111.6 |
| October..... | 86.9 | 81.3 | 70.7 | 57.5 | 94.4 | 91.7 | 50.1 | 43.8 | 75.7 | 64.2 | 69.9 | 59.2 | 110.6 | 106.1 |
| November..... | 84.1 | 76.9 | 71.2 | 57.2 | 91.8 | 87.0 | 48.8 | 42.5 | 75.9 | 62.3 | 66.4 | 51.5 | 104.2 | 104.7 |
| December..... | 83.0 | 76.0 | 72.9 | 59.0 | 89.2 | 83.6 | 46.8 | 39.5 | 76.0 | 65.2 | 67.1 | 55.2 | 105.0 | 105.3 |



MANUFACTURING INDUSTRIES.
MONTHLY INDEXES, 1926-1930.
MONTHLY AVERAGE 1926 = 100.

PAY-ROLL TOTALS.



Time Worked in Manufacturing Industries in December, 1930

REPORTS as to working time of employees in December were received from 11,184 establishments in 60 manufacturing industries. Two per cent of the establishments were idle, while employees in 58 per cent of the establishments were working full time and employees in 40 per cent were working part time.

Employees in the establishments in operation were working an average of 90 per cent of full time as in November.

The 40 per cent of the establishments working part time in December averaged 75 per cent of full time.

TABLE 8.—PROPORTION OF FULL TIME WORKED IN MANUFACTURING INDUSTRIES BY ESTABLISHMENTS REPORTING IN DECEMBER, 1930

| Industry | Establishments reporting | | Per cent of establishments in which employees worked— | | Average per cent of full time reported by— | |
|---|--------------------------|---------------|---|-----------|--|------------------------------------|
| | Total number | Per cent idle | Full time | Part time | All operating establishments | Establishments operating part time |
| Food and kindred products | 1,644 | (1) | 84 | 16 | 97 | 81 |
| Slaughtering and meat packing..... | 171 | | 85 | 15 | 98 | 88 |
| Confectionery..... | 268 | (1) | 77 | 23 | 96 | 81 |
| Ice cream..... | 207 | (1) | 79 | 21 | 97 | 85 |
| Flour..... | 321 | 1 | 76 | 23 | 95 | 75 |
| Baking..... | 664 | (1) | 93 | 7 | 99 | 81 |
| Sugar refining, cane..... | 13 | | 54 | 46 | 93 | 85 |
| Textiles and their products | 1,919 | 4 | 59 | 38 | 90 | 75 |
| Cotton goods..... | 426 | 2 | 53 | 46 | 88 | 74 |
| Hosiery and knit goods..... | 296 | 2 | 60 | 38 | 91 | 77 |
| Silk goods..... | 240 | 3 | 76 | 21 | 96 | 82 |
| Woolen and worsted goods..... | 171 | 4 | 56 | 40 | 89 | 72 |
| Carpets and rugs..... | 22 | | 23 | 77 | 83 | 78 |
| Dyeing and finishing textiles..... | 107 | | 39 | 61 | 87 | 78 |
| Clothing, men's..... | 263 | 9 | 57 | 35 | 90 | 74 |
| Shirts and collars..... | 82 | 2 | 59 | 39 | 91 | 77 |
| Clothing, women's..... | 231 | 7 | 67 | 26 | 92 | 69 |
| Millinery and lace goods..... | 81 | 4 | 60 | 36 | 93 | 82 |
| Iron and steel and their products | 1,726 | 1 | 32 | 67 | 80 | 71 |
| Iron and steel..... | 127 | 5 | 51 | 44 | 84 | 66 |
| Cast-iron pipe..... | 36 | 6 | 6 | 89 | 68 | 66 |
| Structural ironwork..... | 162 | | 55 | 45 | 91 | 80 |
| Foundry and machine-shop products..... | 990 | (1) | 32 | 68 | 80 | 71 |
| Hardware..... | 54 | | 6 | 94 | 75 | 73 |
| Machine tools..... | 141 | 1 | 16 | 82 | 73 | 68 |
| Steam fittings and steam and hot-water heating apparatus..... | 102 | | 30 | 70 | 78 | 69 |
| Stoves..... | 114 | 1 | 24 | 75 | 77 | 70 |
| Lumber and its products | 979 | 3 | 40 | 57 | 84 | 73 |
| Lumber, sawmills..... | 412 | 7 | 43 | 50 | 86 | 74 |
| Lumber, millwork..... | 255 | | 39 | 61 | 85 | 75 |
| Furniture..... | 312 | 2 | 37 | 62 | 82 | 72 |
| Leather and its products | 368 | 4 | 47 | 50 | 87 | 75 |
| Leather..... | 104 | 1 | 61 | 38 | 93 | 82 |
| Boots and shoes..... | 264 | 5 | 41 | 54 | 85 | 73 |
| Paper and printing | 1,121 | 1 | 76 | 23 | 96 | 83 |
| Paper and pulp..... | 144 | 3 | 59 | 38 | 91 | 77 |
| Paper boxes..... | 245 | (1) | 64 | 36 | 94 | 83 |
| Printing, book and job..... | 370 | | 74 | 26 | 96 | 85 |
| Printing, newspapers..... | 362 | 1 | 93 | 6 | 99 | 92 |
| Chemicals and allied products | 328 | 1 | 72 | 27 | 95 | 82 |
| Chemicals..... | 121 | 1 | 64 | 36 | 94 | 83 |
| Fertilizers..... | 142 | 1 | 68 | 31 | 94 | 81 |
| Petroleum refining..... | 65 | | 97 | 3 | 100 | 84 |
| Stone, clay, and glass products | 752 | 8 | 56 | 36 | 90 | 74 |
| Cement..... | 90 | 18 | 76 | 7 | 97 | 63 |
| Brick, tile, and terra cotta..... | 449 | 8 | 50 | 42 | 87 | 72 |
| Pottery..... | 101 | 1 | 49 | 50 | 89 | 78 |
| Glass..... | 112 | 3 | 75 | 22 | 95 | 78 |

¹ Less than one-half of 1 per cent.

TABLE 8.—PROPORTION OF FULL TIME WORKED IN MANUFACTURING INDUSTRIES BY ESTABLISHMENTS REPORTING IN DECEMBER, 1930—Continued

| Industry | Establishments reporting | | Per cent of establishments in which employees worked— | | Average per cent of full time reported by— | |
|--|--------------------------|-----------------------|---|-----------|--|------------------------------------|
| | Total number | Per cent idle | Full time | Part time | All operating establishments | Establishments operating part time |
| Metal products, other than iron and steel. | 207 | (¹) | 41 | 58 | 86 | 77 |
| Stamped and enameled ware..... | 68 | | 43 | 57 | 87 | 77 |
| Brass, bronze, and copper products..... | 139 | 1 | 40 | 59 | 86 | 77 |
| Tobacco products. | 201 | 3 | 53 | 44 | 91 | 81 |
| Chewing and smoking tobacco and snuff..... | 25 | | 52 | 48 | 93 | 85 |
| Cigars and cigarettes..... | 176 | 4 | 53 | 43 | 91 | 80 |
| Vehicles for land transportation. | 1,108 | 1 | 60 | 40 | 91 | 78 |
| Automobiles..... | 168 | 1 | 38 | 62 | 83 | 73 |
| Carriages and wagons..... | 47 | 2 | 47 | 51 | 87 | 75 |
| Car building and repairing, electric-railroad..... | 391 | | 86 | 14 | 98 | 83 |
| Car building and repairing, steam-railroad..... | 502 | 1 | 48 | 52 | 89 | 79 |
| Miscellaneous industries. | 422 | 1 | 49 | 50 | 88 | 77 |
| Agricultural implements..... | 77 | 4 | 32 | 64 | 82 | 73 |
| Electrical machinery, apparatus, and supplies..... | 174 | | 40 | 51 | 89 | 78 |
| Pianos and organs..... | 52 | | 42 | 58 | 87 | 78 |
| Rubber boots and shoes..... | 9 | | 44 | 56 | 89 | 81 |
| Automobile tires and inner tubes..... | 34 | | 24 | 76 | 81 | 75 |
| Shipbuilding..... | 76 | 1 | 84 | 14 | 97 | 82 |
| Industries added in 1929 and 1930. | 409 | (¹) | 58 | 42 | 93 | 82 |
| Rayon..... | 10 | | 80 | 20 | 97 | 83 |
| Radio..... | 40 | | 60 | 40 | 94 | 85 |
| Air craft..... | 35 | 6 | 77 | 17 | 98 | 87 |
| Jewelry..... | 95 | | 52 | 48 | 91 | 82 |
| Paint and varnish..... | 163 | | 55 | 45 | 92 | 82 |
| Rubber goods, other than boots, shoes, tires, and inner tubes..... | 66 | | 59 | 41 | 93 | 84 |
| All industries | 11,184 | 2 | 58 | 40 | 90 | 75 |

¹ Less than one-half of 1 per cent.

2. Employment in Coal Mining in December, 1930

EMPLOYMENT in coal mining—anthracite and bituminous coal combined—showed an increase in December of 0.7 per cent over November, and pay-roll totals decreased 0.1 per cent.

The 1,493 mines reported had in December 353,269 employees, whose combined earnings in one week were \$8,581,268.

Anthracite

IN ANTHRACITE mining in December there was an increase of 2.0 per cent in employment, as compared with November, and a like increase in pay-roll totals.

Employment in December, 1930, was 7.5 per cent lower than in December, 1929, and pay-roll totals were 27.1 per cent less.

All anthracite mines reported are in Pennsylvania—the Middle Atlantic geographic division. The details for November and December are shown in Table 1.

TABLE 1.—COMPARISON OF EMPLOYMENT AND PAY-ROLL TOTALS IN IDENTICAL ANTHRACITE MINES IN NOVEMBER AND DECEMBER, 1930

| Geographic division | Mines | Number on pay roll | | Per cent of change | Amount of pay roll (1 week) | | Per cent of change |
|----------------------|-------|--------------------|----------------|--------------------|-----------------------------|----------------|--------------------|
| | | November, 1930 | December, 1930 | | November, 1930 | December, 1930 | |
| Middle Atlantic..... | 159 | 131, 113 | 133, 745 | +2.0 | \$3, 836, 893 | \$3, 915, 275 | +2.0 |

Bituminous Coal

EMPLOYMENT in bituminous coal mining remained practically the same in December as in November, while pay-roll totals decreased 1.8 per cent, as shown by reports from 1,334 mines in which there were in December 219,524 employees whose combined earnings in one week were \$4,665,993.

Employment in December, 1930, was 8.8 per cent lower than in December, 1929, and pay-roll totals were 28.2 per cent lower.

Details for each geographic division except the New England, for which no coal mining is reported, are shown in Table 2.

TABLE 2.—COMPARISON OF EMPLOYMENT AND PAY-ROLL TOTALS IN IDENTICAL BITUMINOUS COAL MINES IN NOVEMBER AND DECEMBER, 1930

| Geographic division | Mines | Number on pay roll | | Per cent of change | Amount of pay roll (1 week) | | Per cent of change |
|-------------------------|--------|--------------------|----------------|--------------------|-----------------------------|----------------|--------------------|
| | | November, 1930 | December, 1930 | | November, 1930 | December, 1930 | |
| Middle Atlantic..... | 387 | 62, 641 | 62, 016 | -1.0 | \$1, 341, 888 | \$1, 286, 892 | -4.1 |
| East North Central..... | 166 | 28, 777 | 29, 559 | +2.7 | 686, 970 | 702, 582 | +2.3 |
| West North Central..... | 56 | 5, 979 | 6, 047 | +1.1 | 126, 953 | 124, 805 | -1.7 |
| South Atlantic..... | 338 | 54, 584 | 54, 046 | -1.0 | 1, 148, 533 | 1, 102, 671 | -4.0 |
| East South Central..... | 234 | 46, 552 | 46, 349 | -0.4 | 822, 807 | 786, 671 | -4.4 |
| West South Central..... | 24 | 2, 403 | 2, 427 | +1.0 | 47, 913 | 48, 282 | +0.8 |
| Mountain..... | 119 | 17, 207 | 17, 590 | +2.2 | 529, 581 | 559, 453 | +5.6 |
| Pacific..... | 10 | 1, 439 | 1, 490 | +3.5 | 47, 126 | 54, 637 | +15.9 |
| All divisions..... | 1, 334 | 219, 582 | 219, 524 | -(1) | 4, 751, 771 | 4, 665, 993 | -1.8 |

¹ Less than one-tenth of 1 per cent.

3. Employment in Metalliferous Mining in December, 1930

METALLIFEROUS mines in December showed a decrease in employment of 3.7 per cent, as compared with November, and a decrease of 5.5 per cent in pay-roll totals. The 339 mines covered had in December 45,712 employees, whose combined earnings in one week were \$1,182,275.

Employment in December, 1930, was 28.8 per cent lower than in December, 1929, and pay-roll totals were 39.9 per cent lower.

Details for each geographic division from which metalliferous mining is reported are shown in the following table:

COMPARISON OF EMPLOYMENT AND PAY-ROLL TOTALS IN IDENTICAL METAL-LIFEROUS MINES IN NOVEMBER AND DECEMBER, 1930

| Geographic division | Mines | Number on pay roll | | Per cent of change | Amount of pay roll (1 week) | | Per cent of change |
|---------------------------|------------|--------------------|----------------|--------------------|-----------------------------|------------------|--------------------|
| | | November, 1930 | December, 1930 | | November, 1930 | December, 1930 | |
| Middle Atlantic..... | 7 | 1,382 | 1,342 | -2.9 | \$36,120 | \$35,655 | -1.3 |
| East North Central..... | 47 | 11,852 | 11,132 | -6.1 | 263,247 | 231,733 | -12.0 |
| West North Central..... | 50 | 7,014 | 6,594 | -6.0 | 196,968 | 181,699 | -7.8 |
| East South Central..... | 14 | 3,465 | 3,369 | -2.8 | 67,506 | 64,145 | -5.0 |
| West South Central..... | 64 | 2,408 | 2,611 | +8.4 | 56,662 | 60,938 | +7.5 |
| Mountain..... | 122 | 19,003 | 18,344 | -3.5 | 561,684 | 541,304 | -3.6 |
| Pacific..... | 35 | 2,321 | 2,320 | -(1) | 68,589 | 66,801 | -2.6 |
| All divisions..... | 339 | 47,445 | 45,712 | -3.7 | 1,250,776 | 1,182,275 | -5.5 |

¹ Less than one-tenth of 1 per cent.

4. Employment in Quarrying and Nonmetallic Mining in December, 1930

A DECREASE of 10.3 per cent was shown in both employment and earnings from November to December by reports received from 756 establishments in this industrial group.

These establishments had in December 29,641 employees, whose combined earnings in one week were \$666,169.

Employment in December, 1930, was 22.1 per cent lower than in December, 1929, and pay-roll totals were 29.9 per cent lower.

Details for each geographic division are shown in the following table:

COMPARISON OF EMPLOYMENT AND PAY-ROLL TOTALS IN IDENTICAL QUARRIES AND NONMETALLIC MINES IN NOVEMBER AND DECEMBER, 1930

| Geographic division | Establishments | Number on pay roll | | Per cent of change | Amount of pay roll (1 week) | | Per cent of change |
|---------------------------|----------------|--------------------|----------------|--------------------|-----------------------------|----------------|--------------------|
| | | November, 1930 | December, 1930 | | November, 1930 | December, 1930 | |
| New England..... | 97 | 4,283 | 3,965 | -7.4 | \$114,677 | \$101,749 | -11.3 |
| Middle Atlantic..... | 129 | 6,331 | 5,569 | -12.0 | 146,291 | 140,659 | -3.8 |
| East North Central..... | 225 | 8,708 | 7,375 | -15.3 | 215,058 | 179,187 | -16.7 |
| West North Central..... | 82 | 2,121 | 1,900 | -10.4 | 48,742 | 40,880 | -16.1 |
| South Atlantic..... | 93 | 5,203 | 4,829 | -7.2 | 88,125 | 85,328 | -3.2 |
| East South Central..... | 56 | 2,592 | 2,351 | -9.3 | 36,664 | 33,812 | -7.8 |
| West South Central..... | 41 | 2,578 | 2,548 | -1.2 | 57,942 | 52,782 | -8.9 |
| Mountain..... | 2 | 50 | 57 | +14.0 | 2,220 | 2,012 | -9.4 |
| Pacific..... | 31 | 1,185 | 1,047 | -11.6 | 32,735 | 29,760 | -9.1 |
| All divisions..... | 756 | 33,051 | 29,641 | -10.3 | 742,454 | 666,169 | -10.3 |

5. Employment in Crude Petroleum Producing in December, 1930

REPORTS from 534 crude petroleum-producing establishments in December showed a decrease of 7.4 per cent in employment, with a decrease of 3.5 per cent in pay-roll totals, as compared with November figures.

These establishments had in December 28,128 employees, whose combined earnings in one week were \$1,049,454.

A survey of the year 1929 discloses a loss of 20.2 per cent in employment and 24.4 per cent in pay-roll totals between December, 1929, and December, 1930.

Details for each geographic division except New England, for which no production is reported, are shown in the following table:

COMPARISON OF EMPLOYMENT AND PAY-ROLL TOTALS IN IDENTICAL **CRUDE PETROLEUM PRODUCING** COMPANIES IN NOVEMBER AND DECEMBER, 1930

| Geographic division | Estab- lish- ments | Number on pay roll | | Per cent of change | Amount of pay roll (1 week) | | Per cent of change |
|---------------------------|--------------------------|---------------------|---------------------|--------------------------|--------------------------------|---------------------|--------------------------|
| | | Novem- ber, 1930 | Decem- ber, 1930 | | Novem- ber, 1930 | Decem- ber, 1930 | |
| Middle Atlantic..... | 39 | 712 | 687 | -3.5 | \$19,475 | \$19,867 | +2.0 |
| East North Central..... | 5 | 61 | 58 | -4.9 | 1,420 | 1,192 | -16.1 |
| West North Central..... | 23 | 197 | 130 | -34.0 | 3,768 | 3,114 | -17.4 |
| South Atlantic..... | 10 | 568 | 521 | -8.3 | 15,299 | 14,724 | -3.8 |
| East South Central..... | 3 | 43 | 46 | +7.0 | 1,242 | 1,313 | +5.7 |
| West South Central..... | 367 | 20,826 | 18,858 | -9.4 | 719,367 | 691,482 | -3.9 |
| Mountain..... | 17 | 312 | 289 | -7.4 | 11,823 | 10,709 | -9.4 |
| Pacific..... | 70 | 7,650 | 7,539 | -1.5 | 314,780 | 307,053 | -2.5 |
| All divisions..... | 534 | 30,369 | 28,128 | -7.4 | 1,087,174 | 1,049,454 | -3.5 |

6. Employment in Public Utilities in December, 1930

EMPLOYMENT in 12,013 establishments—telephone and telegraph companies, power, light, and water companies, and electric railroads, combined—decreased 0.9 per cent in December as compared with November, and pay-roll totals increased 2.6 per cent. These establishments had in December 726,229 employees whose combined earnings in one week were \$22,559,765.

Employment in public utilities was 6.6 per cent lower in December, 1930, than in December, 1929, while pay-roll totals were 3.7 per cent lower.

Data for the three groups into which public utilities have been separated follow:

Telephone and Telegraph

EMPLOYMENT in telephone and telegraph companies was 1.5 per cent lower in December than in November, while earnings were 3.5 per cent higher. The 7,934 establishments reporting had in December 324,014 employees whose combined earnings in one week were \$9,730,635.

Employment in December, 1930, was 10 per cent below the level of December, 1929, and pay-roll totals were 2.5 per cent lower.

Details for each geographic division are shown in Table 1.

TABLE 1.—COMPARISON OF EMPLOYMENT AND PAY-ROLL TOTALS IN IDENTICAL TELEPHONE AND TELEGRAPH ESTABLISHMENTS IN NOVEMBER AND DECEMBER, 1930

| Geographic division | Establishments | Number on pay roll | | Per cent of change | Amount of pay roll (1 week) | | Per cent of change |
|---------------------------|----------------|--------------------|----------------|--------------------|-----------------------------|------------------|--------------------|
| | | November, 1930 | December, 1930 | | November, 1930 | December, 1930 | |
| New England..... | 724 | 29,066 | 28,518 | -1.9 | \$883,443 | \$899,138 | +1.8 |
| Middle Atlantic..... | 1,227 | 104,879 | 103,574 | -1.2 | 3,372,032 | 3,483,709 | +3.3 |
| East North Central..... | 1,435 | 74,777 | 73,545 | -1.6 | 2,039,949 | 2,105,390 | +3.2 |
| West North Central..... | 1,314 | 30,554 | 30,159 | -1.3 | 746,834 | 784,389 | +5.0 |
| South Atlantic..... | 557 | 21,415 | 21,108 | -1.4 | 573,193 | 597,790 | +4.3 |
| East South Central..... | 592 | 10,656 | 10,479 | -1.7 | 231,114 | 239,627 | +3.7 |
| West South Central..... | 692 | 18,192 | 18,071 | -0.7 | 407,302 | 424,516 | +4.2 |
| Mountain..... | 482 | 8,018 | 7,787 | -2.9 | 192,060 | 200,483 | +4.4 |
| Pacific..... | 911 | 31,340 | 30,773 | -1.8 | 958,368 | 995,593 | +3.9 |
| All divisions..... | 7,934 | 328,897 | 324,014 | -1.5 | 9,404,295 | 9,730,635 | +3.5 |

Power, Light, and Water

EMPLOYMENT in power, light, and water plants was 0.2 per cent lower in December than in November, and pay-roll totals were 2.5 per cent higher. The 3,601 establishments reporting had in December 252,232 employees whose combined earnings in one week were \$8,122,113.

Employment in December, 1930, was 0.7 per cent higher than in December, 1929, and pay-roll totals were 0.5 per cent higher.

Details for each geographic division are shown in Table 2.

TABLE 2.—COMPARISON OF EMPLOYMENT AND PAY-ROLL TOTALS IN IDENTICAL POWER, LIGHT, AND WATER COMPANIES IN NOVEMBER AND DECEMBER, 1930

| Geographic division | Establishments | Number on pay roll | | Per cent of change | Amount of pay roll (1 week) | | Per cent of change |
|---------------------------|----------------|--------------------|----------------|--------------------|-----------------------------|------------------|--------------------|
| | | November, 1930 | December, 1930 | | November, 1930 | December, 1930 | |
| New England..... | 254 | 21,922 | 21,688 | -1.1 | \$706,866 | \$709,722 | +0.4 |
| Middle Atlantic..... | 340 | 64,757 | 63,284 | -2.3 | 2,090,975 | 2,112,960 | +1.1 |
| East North Central..... | 641 | 55,900 | 54,062 | -3.3 | 1,870,287 | 1,834,173 | -1.9 |
| West North Central..... | 422 | 30,220 | 29,209 | -3.3 | 875,457 | 866,430 | -1.0 |
| South Atlantic..... | 265 | 24,182 | 23,852 | -1.4 | 725,917 | 732,844 | +1.0 |
| East South Central..... | 168 | 7,347 | 7,121 | -3.1 | 182,258 | 185,118 | +1.6 |
| West South Central..... | 542 | 16,851 | 17,529 | +4.0 | 465,359 | 498,865 | +7.2 |
| Mountain..... | 125 | 6,502 | 6,319 | -2.8 | 194,242 | 188,877 | -2.8 |
| Pacific..... | 844 | 25,113 | 29,168 | +16.1 | 810,195 | 993,124 | +22.6 |
| All divisions..... | 3,601 | 252,794 | 252,232 | -0.2 | 7,921,556 | 8,122,113 | +2.5 |

Electric Railroads

EMPLOYMENT in the operation and maintenance of electric railroads, exclusive of car shops, decreased 0.6 per cent from November to December, and pay-roll totals increased 1 per cent. The 478 establishments reporting had in December 149,983 employees, whose combined earnings in one week were \$4,707,017.

Employment in December, 1930, was 9.7 per cent lower than in December, 1929, and pay-roll totals were 11.2 per cent lower.

Details for each geographic division are shown in Table 3.

TABLE 3.—COMPARISON OF EMPLOYMENT AND PAY-ROLL TOTALS IN THE OPERATION AND MAINTENANCE OF IDENTICAL **ELECTRIC RAILROADS** IN NOVEMBER AND DECEMBER, 1930

| Geographic division | Establishments | Number on pay roll | | Per cent of change | Amount of pay roll (1 week) | | Per cent of change |
|---------------------------|----------------|--------------------|----------------|--------------------|-----------------------------|------------------|--------------------|
| | | November, 1930 | December, 1930 | | November, 1930 | December, 1930 | |
| New England..... | 49 | 14,411 | 14,237 | -1.2 | \$510,414 | \$511,290 | +0.2 |
| Middle Atlantic..... | 111 | 39,014 | 38,677 | -0.9 | 1,182,579 | 1,176,310 | -0.5 |
| East North Central..... | 109 | 44,908 | 44,531 | -0.8 | 1,444,729 | 1,456,576 | +0.8 |
| West North Central..... | 66 | 14,040 | 13,717 | -2.3 | 420,482 | 421,155 | +0.2 |
| South Atlantic..... | 49 | 10,725 | 11,275 | +5.1 | 287,778 | 321,546 | +11.7 |
| East South Central..... | 11 | 3,667 | 3,698 | +0.8 | 97,404 | 102,302 | +5.0 |
| West South Central..... | 31 | 5,200 | 5,037 | -3.1 | 135,090 | 135,789 | +0.5 |
| Mountain..... | 15 | 2,144 | 2,099 | -2.1 | 59,235 | 57,745 | -2.5 |
| Pacific..... | 37 | 16,754 | 16,712 | -0.3 | 521,706 | 524,304 | +0.5 |
| All divisions..... | 478 | 150,863 | 149,983 | -0.6 | 4,659,417 | 4,707,017 | +1.0 |

7. Employment in Wholesale and Retail Trade in December, 1930

EMPLOYMENT in 9,759 establishments—wholesale and retail trade combined—showed a gain of 13.9 per cent in December as compared with November, and an increase of 8.9 per cent was reported in pay-roll totals.

These establishments had in December 411,969 employees whose combined earnings in one week were \$9,851,472.

Wholesale Trade

EMPLOYMENT in wholesale trade alone decreased 0.6 per cent in December as compared with November, while pay-roll totals increased 0.3 per cent. Six of the nine geographic divisions showed a pay-roll increase, the East South Central and West South Central divisions leading with increases of 2.3 per cent and 2.0 per cent, respectively. The 1,960 establishments reporting had in December 63,350 employees and pay-roll totals in one week of \$1,980,307.

Employment in December, 1930, was 10.3 per cent lower than in December, 1929, and pay-roll totals were 12.8 per cent lower.

Details for each geographic division are shown in Table 1.

TABLE 1.—COMPARISON OF EMPLOYMENT AND PAY-ROLL TOTALS IN IDENTICAL **WHOLESALE TRADE** ESTABLISHMENTS IN NOVEMBER AND DECEMBER, 1930

| Geographic division | Establishments | Number on pay roll | | Per cent of change | Amount of pay roll (1 week) | | Per cent of change |
|---------------------------|----------------|--------------------|----------------|--------------------|-----------------------------|------------------|--------------------|
| | | November, 1930 | December, 1930 | | November, 1930 | December, 1930 | |
| New England..... | 176 | 3,993 | 3,986 | -0.2 | \$113,123 | \$112,198 | -0.8 |
| Middle Atlantic..... | 318 | 9,718 | 9,567 | -1.6 | 317,305 | 312,676 | -1.5 |
| East North Central..... | 282 | 12,116 | 11,976 | -1.2 | 381,539 | 377,420 | -1.1 |
| West North Central..... | 267 | 14,074 | 14,028 | -0.3 | 417,302 | 422,716 | +1.3 |
| South Atlantic..... | 183 | 3,741 | 3,817 | +2.0 | 108,883 | 110,343 | +1.3 |
| East South Central..... | 71 | 1,822 | 1,807 | -0.8 | 49,470 | 50,610 | +2.3 |
| West South Central..... | 237 | 5,839 | 5,827 | -0.2 | 173,841 | 177,250 | +2.0 |
| Mountain..... | 80 | 1,845 | 1,803 | -2.3 | 61,762 | 62,032 | +0.4 |
| Pacific..... | 346 | 10,607 | 10,539 | -0.6 | 351,879 | 355,062 | +0.9 |
| All divisions..... | 1,960 | 63,755 | 63,350 | -0.6 | 1,975,104 | 1,980,307 | +0.3 |

Retail Trade

EMPLOYMENT in retail trade in December showed an increase of 17.0 per cent, and pay-roll totals increased 11.3 per cent, there having been increases in both items in each geographic division. These per cents of increase reflect the large volume of Christmas trade.

The 7,799 establishments from which reports were received had in December 348,619 employees whose combined earnings in one week were \$7,871,165.

Employment in December, 1930, was 8.8 per cent lower than in December, 1929, and pay-roll totals were 10.7 per cent lower.

Details by geographic divisions are shown in Table 2.

TABLE 2.—COMPARISON OF EMPLOYMENT AND PAY-ROLL TOTALS IN IDENTICAL RETAIL TRADE ESTABLISHMENTS IN NOVEMBER AND DECEMBER, 1930

| Geographic division | Estab- lish- ments | Number on pay roll | | Per cent of change | Amount of pay roll (1 week) | | Per cent of change |
|---------------------------|--------------------------|--------------------|-------------------|--------------------------|--------------------------------|-------------------|--------------------------|
| | | November, 1930 | December, 1930 | | November, 1930 | December, 1930 | |
| New England..... | 118 | 15,478 | 18,528 | +19.7 | \$367,275 | \$399,146 | +8.7 |
| Middle Atlantic..... | 408 | 83,763 | 98,819 | +18.0 | 2,251,740 | 2,508,003 | +11.4 |
| East North Central..... | 2,742 | 83,976 | 96,837 | +15.3 | 2,992,103 | 2,196,796 | +10.3 |
| West North Central..... | 693 | 22,428 | 25,836 | +15.2 | 467,815 | 502,345 | +7.4 |
| South Atlantic..... | 1,067 | 22,851 | 27,796 | +21.6 | 486,575 | 561,714 | +15.4 |
| East South Central..... | 430 | 8,599 | 9,590 | +11.5 | 165,387 | 175,212 | +5.9 |
| West South Central..... | 321 | 12,308 | 13,091 | +6.4 | 239,493 | 249,963 | +4.4 |
| Mountain..... | 187 | 4,931 | 5,881 | +19.3 | 107,264 | 116,790 | +8.9 |
| Pacific..... | 1,833 | 43,685 | 52,241 | +19.6 | 993,613 | 1,161,196 | +16.9 |
| All divisions..... | 7,799 | 295,019 | 348,619 | +17.0 | 7,071,265 | 7,871,165 | +11.3 |

8. Employment in Hotels in December, 1930

EMPLOYMENT in hotels decreased 1.8 per cent in December as compared with November, and pay-roll totals decreased 2.2 per cent. The 2,018 hotels reporting had in December 145,076 employees whose earnings in one week were \$2,441,910.

The South Atlantic division reported an increase in employment and also in pay-roll totals, due to the opening of winter resort hotels. All other divisions reported slight decreases in both items, as compared with November.

Employment in December, 1930, was 4.3 per cent lower than in December, 1929, and pay-roll totals were 7.5 per cent lower.

Per capita earnings, obtained by dividing the total number of employees into the total amount of pay-roll, should not be interpreted as being the entire earnings of hotel employees. The pay-roll totals here reported are cash payments only, with no regard to the value of room or board furnished employees, and of course no satisfactory estimate can be made of additional recompense in the way of tips. The additions to the money wages granted vary greatly, not only among localities but among hotels in one locality and among employees in one hotel. Some employees are furnished board and room, others are given board only for 1, 2, or 3 meals, while the division of tips is made in many ways. Per capita earnings are further reduced by the con-

siderable amount of part-time employment caused by conventions and banquets or other functions.

The details for each geographic division are shown in the table following.

COMPARISON OF EMPLOYMENT AND PAY-ROLL TOTALS IN IDENTICAL **HOTELS** IN NOVEMBER AND DECEMBER, 1930

| Geographic division | Hotels | Number on pay roll | | Per cent of change | Amount of pay roll (1 week) | | Per cent of change |
|---------------------------|--------------|--------------------|----------------|--------------------|-----------------------------|------------------|--------------------|
| | | November, 1930 | December, 1930 | | November, 1930 | December, 1930 | |
| New England..... | 98 | 8,568 | 8,065 | -5.9 | \$140,353 | \$133,882 | -4.6 |
| Middle Atlantic..... | 362 | 45,947 | 44,682 | -2.8 | 822,675 | 800,013 | -2.8 |
| East North Central..... | 393 | 31,862 | 31,302 | -1.8 | 563,750 | 548,464 | -2.7 |
| West North Central..... | 267 | 14,183 | 13,740 | -3.1 | 205,579 | 200,658 | -2.4 |
| South Atlantic..... | 180 | 11,979 | 12,571 | +4.9 | 179,312 | 184,111 | +2.7 |
| East South Central..... | 81 | 5,243 | 5,077 | -3.2 | 66,367 | 65,004 | -2.1 |
| West South Central..... | 155 | 9,258 | 9,184 | -0.8 | 126,485 | 124,793 | -1.3 |
| Mountain..... | 113 | 3,583 | 3,465 | -3.3 | 62,066 | 60,080 | -3.2 |
| Pacific..... | 369 | 17,105 | 16,990 | -0.7 | 329,697 | 324,905 | -1.5 |
| All divisions..... | 2,018 | 147,728 | 145,076 | -1.8 | 2,496,284 | 2,441,910 | -2.2 |

9. Employment in Canning and Preserving in December, 1930

THE heavy seasonal decrease in canning and preserving noted in November was continued in December by a per cent of 36.3 in employment and of 30.8 in pay-roll totals.

Reports from 969 establishments (of which 101 were closed in December) showed 36,698 employees receiving in one week in December pay-roll totals of \$610,916.

Employment in December, 1930, was 0.5 per cent higher than in December, 1929, but pay-roll totals declined 9.5 per cent over the year interval.

Details by geographic divisions are shown in the following table:

COMPARISON OF EMPLOYMENT AND PAY-ROLL TOTALS IN IDENTICAL **CANNING AND PRESERVING** ESTABLISHMENTS IN NOVEMBER AND DECEMBER, 1930

| Geographic division | Estab-lish-ments | Number on pay roll | | Per cent of change | Amount of pay roll (1 week) | | Per cent of change |
|---------------------------|------------------|--------------------|----------------|--------------------|-----------------------------|----------------|--------------------|
| | | November, 1930 | December, 1930 | | November, 1930 | December, 1930 | |
| New England..... | 79 | 2,470 | 1,466 | -40.6 | \$37,500 | \$24,406 | -34.9 |
| Middle Atlantic..... | 88 | 10,533 | 8,148 | -22.6 | 200,320 | 165,334 | -17.5 |
| East North Central..... | 275 | 10,831 | 6,492 | -40.1 | 189,231 | 123,871 | -34.5 |
| West North Central..... | 57 | 1,908 | 1,258 | -34.1 | 28,632 | 21,233 | -25.8 |
| South Atlantic..... | 122 | 7,775 | 5,866 | -24.6 | 82,923 | 71,760 | -13.5 |
| East South Central..... | 41 | 2,402 | 1,397 | -41.8 | 19,130 | 13,510 | -29.4 |
| West South Central..... | 43 | 3,092 | 2,053 | -33.6 | 13,535 | 7,373 | -45.5 |
| Mountain..... | 53 | 2,673 | 1,185 | -55.7 | 43,746 | 26,186 | -40.1 |
| Pacific..... | 211 | 15,901 | 8,833 | -44.5 | 267,204 | 157,243 | -41.2 |
| All divisions..... | 969 | 57,585 | 36,698 | -36.3 | 882,221 | 610,916 | -30.8 |

10. Employment in Laundries in December, 1930

EMPLOYMENT in laundries decreased 0.8 per cent in December and pay-roll totals decreased 1.8 per cent, as shown by reports from 183 establishments which had in December 17,931 employees whose earnings in one week were \$353,482.

There were increases in employment in the South Atlantic, East South Central, and Pacific geographic divisions and decreases in each of the remaining six divisions.

As data for December, 1929, are not available no comparison of employment over the 12-month period can be made.

Details for each geographic division appear in the table following.

COMPARISON OF EMPLOYMENT AND PAY-ROLL TOTALS IN IDENTICAL LAUNDRIES
IN NOVEMBER AND DECEMBER, 1930

| Geographic division | Laundries | Number on pay roll | | Per cent of change | Amount of pay roll (1 week) | | Per cent of change |
|---------------------------|------------|--------------------|----------------|--------------------|-----------------------------|----------------|--------------------|
| | | November, 1930 | December, 1930 | | November, 1930 | December, 1930 | |
| New England..... | 23 | 1,458 | 1,450 | -0.5 | \$31,556 | \$30,984 | -1.8 |
| Middle Atlantic..... | 51 | 8,215 | 8,133 | -1.0 | 175,875 | 172,822 | -1.7 |
| East North Central..... | 20 | 807 | 798 | -1.1 | 15,289 | 14,097 | -7.8 |
| West North Central..... | 20 | 1,875 | 1,860 | -0.3 | 31,313 | 31,385 | +0.2 |
| South Atlantic..... | 13 | 1,493 | 1,516 | +1.5 | 25,882 | 26,444 | +2.2 |
| East South Central..... | 12 | 653 | 655 | +0.3 | 9,904 | 9,523 | -3.8 |
| West South Central..... | 16 | 1,075 | 1,039 | -3.3 | 16,591 | 15,368 | -7.4 |
| Mountain..... | 11 | 867 | 806 | -7.0 | 15,192 | 13,863 | -8.7 |
| Pacific..... | 17 | 1,636 | 1,665 | +1.8 | 38,199 | 38,996 | +2.1 |
| All divisions..... | 183 | 18,079 | 17,931 | -0.8 | 359,801 | 353,482 | -1.8 |

11. Employment in Dyeing and Cleaning in December, 1930

EMPLOYMENT in dyeing and cleaning establishments decreased 6.5 per cent in December as compared with November, and pay-roll totals decreased 7.1 per cent, as shown by reports from 69 establishments, having in December 2,680 employees whose combined earnings in one week were \$64,059.

As data for December, 1929, are not available no comparison of employment over the 12-month period can be made.

Details for each geographic division appear in the table following.

COMPARISON OF EMPLOYMENT AND PAY-ROLL TOTALS IN IDENTICAL DYEING
AND CLEANING ESTABLISHMENTS IN NOVEMBER AND DECEMBER, 1930

| Geographic division | Estab-lishments | Number on pay roll | | Per cent of change | Amount of pay roll (1 week) | | Per cent of change |
|---------------------------|-----------------|--------------------|----------------|--------------------|-----------------------------|----------------|--------------------|
| | | November, 1930 | December, 1930 | | November, 1930 | December, 1930 | |
| New England..... | 6 | 295 | 275 | -6.8 | \$7,731 | \$7,346 | -5.0 |
| Middle Atlantic..... | 10 | 708 | 680 | -4.0 | 18,659 | 17,748 | -4.9 |
| East North Central..... | 4 | 169 | 165 | -2.4 | 4,078 | 3,862 | -5.3 |
| West North Central..... | 9 | 255 | 237 | -7.1 | 5,147 | 4,713 | -8.4 |
| South Atlantic..... | 4 | 129 | 115 | -10.9 | 3,329 | 3,323 | -0.2 |
| East South Central..... | 6 | 276 | 262 | -5.1 | 5,194 | 4,935 | -5.0 |
| West South Central..... | 14 | 456 | 399 | -12.5 | 10,022 | 8,567 | -14.5 |
| Mountain..... | 9 | 98 | 94 | -4.1 | 2,373 | 2,280 | -3.9 |
| Pacific..... | 7 | 480 | 453 | -5.6 | 12,427 | 11,285 | -9.2 |
| All divisions..... | 69 | 2,866 | 2,680 | -6.5 | 68,960 | 64,059 | -7.1 |

Indexes of Employment and Pay-Roll Totals—Mining, Quarrying, Crude Petroleum Producing, Public Utilities, Trade, Hotels, and Canning

THE following table shows the index numbers of employment and pay-roll totals for anthracite, bituminous coal, and metalliferous mining, quarrying, crude petroleum producing, telephone and telegraph, power-light-water, electric railroads, wholesale and retail trade, hotels, and canning and preserving, by months, from January, 1929, to December, 1930, with the monthly average for 1929 as 100.

ry-
de,
and
lilf-
and
tail
ry,
00.

INDEXES OF EMPLOYMENT AND PAY-ROLL TOTALS, JANUARY, 1929, TO DECEMBER, 1930—MINING, QUARRYING, CRUDE PETROLEUM
PRODUCING, PUBLIC UTILITIES, TRADE, HOTELS, AND CANNING (MONTHLY AVERAGE, 1929=100)

TREND OF EMPLOYMENT

181

| Year and month | Anthracite mining | | Bituminous coal mining | | Metalliferous mining | Quarrying and non-metallic mining | Crude petroleum producing | Telephone and telegraph | Power, light, and water | Operation and maintenance of electric railroads ¹ | Wholesale trade | Retail trade | Hotels | Canning and preserving |
|----------------|----------------------|------------------------|------------------------|------------------------|----------------------|-----------------------------------|---------------------------|-------------------------|-------------------------|--|----------------------|------------------------|----------------------|------------------------|
| | Em- ploy- ment | Pay- roll totals | Em- ploy- ment | Pay- roll totals | Em- ploy- ment | Pay- roll totals | Em- ploy- ment | Pay- roll totals | Em- ploy- ment | Pay- roll totals | Em- ploy- ment | Pay- roll totals | Em- ploy- ment | Pay- roll totals |
| 1929 | | | | | | | | | | | | | | |
| January | 105.7 | 100.7 | 106.4 | 106.1 | 93.1 | 88.0 | 91.6 | 85.9 | 90.0 | 93.1 | 94.3 | 94.5 | 92.9 | 91.7 |
| February | 106.0 | 122.1 | 107.7 | 116.6 | 94.6 | 91.8 | 91.9 | 88.9 | 90.4 | 93.0 | 95.3 | 93.0 | 97.6 | 99.1 |
| March | 98.0 | 90.8 | 106.8 | 108.6 | 97.0 | 99.1 | 96.0 | 95.0 | 89.6 | 97.4 | 96.5 | 96.2 | 98.0 | 94.5 |
| April | 100.7 | 88.3 | 100.2 | 89.2 | 100.6 | 104.6 | 99.6 | 100.5 | 97.6 | 96.7 | 97.8 | 95.5 | 99.5 | 97.9 |
| May | 103.7 | 99.0 | 96.6 | 91.9 | 100.8 | 104.6 | 104.1 | 107.1 | 93.9 | 92.4 | 100.4 | 99.4 | 101.0 | 99.0 |
| June | 92.9 | 80.7 | 94.7 | 90.0 | 103.8 | 105.6 | 106.6 | 110.5 | 104.1 | 99.4 | 101.5 | 100.0 | 100.7 | 99.2 |
| July | 83.2 | 64.7 | 94.1 | 85.6 | 101.5 | 99.0 | 104.7 | 104.7 | 106.0 | 100.7 | 102.6 | 104.1 | 101.9 | 100.4 |
| August | 91.1 | 78.4 | 95.7 | 92.8 | 103.2 | 100.1 | 106.7 | 110.3 | 113.2 | 104.7 | 103.7 | 101.8 | 105.4 | 103.8 |
| September | 101.9 | 103.8 | 97.2 | 98.6 | 101.2 | 102.0 | 106.6 | 109.8 | 108.9 | 110.7 | 102.5 | 100.4 | 105.5 | 106.6 |
| October | 106.1 | 133.9 | 98.8 | 106.8 | 101.9 | 103.1 | 103.6 | 105.8 | 107.9 | 100.1 | 101.9 | 105.1 | 105.7 | 100.5 |
| November | 104.0 | 100.5 | 101.0 | 103.0 | 102.2 | 98.6 | 96.0 | 101.1 | 103.8 | 101.9 | 101.2 | 104.7 | 104.1 | 99.4 |
| December | 107.1 | 137.2 | 101.4 | 108.2 | 98.5 | 99.7 | 90.1 | 85.4 | 97.0 | 102.1 | 101.8 | 103.9 | 102.5 | 105.8 |
| Average | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| 1930 | | | | | | | | | | | | | | |
| January | 102.1 | 105.8 | 102.5 | 101.4 | 95.7 | 92.7 | 79.6 | 71.9 | 92.7 | 94.0 | 101.6 | 105.1 | 99.6 | 99.7 |
| February | 106.9 | 121.5 | 102.4 | 102.1 | 92.3 | 92.5 | 79.8 | 73.5 | 90.8 | 88.6 | 100.2 | 101.9 | 98.8 | 100.4 |
| March | 82.6 | 78.5 | 98.6 | 86.4 | 90.9 | 90.8 | 83.0 | 80.0 | 89.3 | 91.3 | 99.4 | 105.8 | 99.7 | 102.1 |
| April | 84.1 | 75.0 | 94.4 | 81.7 | 89.3 | 88.3 | 87.4 | 85.4 | 86.8 | 86.6 | 98.9 | 103.4 | 100.7 | 102.6 |
| May | 93.8 | 98.8 | 90.4 | 77.5 | 87.5 | 85.6 | 90.8 | 90.2 | 89.8 | 85.4 | 99.7 | 103.2 | 103.4 | 104.5 |
| June | 90.8 | 94.3 | 88.4 | 73.6 | 84.6 | 81.6 | 90.3 | 90.9 | 90.2 | 87.1 | 99.8 | 103.4 | 104.6 | 107.8 |
| July | 91.6 | 84.0 | 88.0 | 68.9 | 80.5 | 71.9 | 89.9 | 85.5 | 89.9 | 88.5 | 100.0 | 106.6 | 105.9 | 95.3 |
| August | 80.2 | 78.8 | 89.2 | 71.1 | 79.0 | 71.0 | 89.3 | 85.8 | 87.7 | 86.0 | 98.8 | 102.5 | 106.4 | 92.9 |
| September | 93.8 | 91.6 | 90.5 | 74.9 | 78.1 | 69.9 | 87.7 | 82.5 | 85.0 | 84.0 | 96.8 | 102.2 | 105.2 | 91.8 |
| October | 99.0 | 117.2 | 91.8 | 79.4 | 77.2 | 68.6 | 84.7 | 79.3 | 85.2 | 82.6 | 94.5 | 100.9 | 104.8 | 91.0 |
| November | 97.2 | 98.0 | 92.5 | 78.3 | 72.8 | 63.4 | 78.3 | 66.8 | 83.6 | 80.0 | 93.0 | 97.9 | 103.7 | 87.7 |
| December | 99.1 | 100.0 | 92.5 | 77.7 | 70.1 | 59.9 | 70.2 | 59.9 | 77.4 | 77.2 | 91.6 | 101.3 | 103.2 | 106.3 |
| Average | 93.4 | 95.3 | 93.4 | 81.3 | 83.2 | 78.0 | 84.3 | 79.3 | 87.4 | 85.9 | 97.9 | 102.9 | 103.0 | 93.4 |

¹ Not including electric-railroad car building and repairing; see vehicles group, manufacturing industries, p. 153, et seq.

Employment on Class I Steam Railroads in the United States

THE monthly trend of employment from January, 1923, to November, 1930, on Class I railroads—that is, all roads having operating revenues of \$1,000,000 or over—is shown by the index numbers published in Table 1. These index numbers are constructed from monthly reports of the Interstate Commerce Commission, using the monthly average for 1926 as 100.

TABLE 1.—INDEX OF EMPLOYMENT ON CLASS I STEAM RAILROADS IN THE UNITED STATES, JANUARY, 1923, TO NOVEMBER, 1930

[Monthly average, 1926=100]

| Month | 1923 | 1924 | 1925 | 1926 | 1927 | 1928 | 1929 | 1930 |
|---------------------|--------------|-------------|-------------|--------------|-------------|-------------|-------------|-------------|
| January..... | 98.3 | 96.9 | 95.6 | 95.8 | 95.5 | 89.3 | 88.2 | 86.3 |
| February..... | 98.6 | 97.0 | 95.4 | 96.0 | 95.3 | 89.0 | 88.9 | 85.4 |
| March..... | 100.5 | 97.4 | 95.2 | 96.7 | 95.8 | 89.9 | 90.1 | 85.5 |
| April..... | 102.0 | 98.9 | 96.6 | 98.9 | 97.4 | 91.7 | 92.2 | 87.0 |
| May..... | 105.0 | 99.2 | 97.8 | 100.2 | 99.4 | 94.5 | 94.9 | 88.6 |
| June..... | 107.1 | 98.0 | 98.6 | 101.6 | 100.9 | 95.9 | 96.1 | 86.5 |
| July..... | 108.2 | 98.1 | 99.4 | 102.9 | 101.0 | 95.6 | 96.6 | 81.7 |
| August..... | 109.4 | 99.0 | 99.7 | 102.7 | 99.5 | 95.7 | 97.4 | 83.7 |
| September..... | 107.8 | 99.7 | 99.9 | 102.8 | 99.1 | 95.3 | 96.8 | 82.2 |
| October..... | 107.3 | 100.8 | 100.7 | 103.4 | 98.9 | 95.3 | 96.9 | 80.4 |
| November..... | 105.2 | 99.0 | 99.1 | 101.2 | 95.7 | 92.9 | 93.0 | 77.0 |
| December..... | 99.4 | 96.0 | 97.1 | 98.2 | 91.9 | 89.7 | 88.8 | |
| Average..... | 104.1 | 98.3 | 97.9 | 100.0 | 97.5 | 92.9 | 93.3 | 84.3 |

¹ Average for 11 months.

Table 2 shows the total number of employees on the 15th day each of November, 1929, and October and November, 1930, and pay-roll totals for the entire months.

In these tabulations data for the occupational group reported as "executives, officials, and staff assistants" are omitted.

TABLE 2.—EMPLOYMENT AND EARNINGS OF RAILROAD EMPLOYEES, NOVEMBER 1929, AND OCTOBER AND NOVEMBER, 1930

[From monthly reports of Interstate Commerce Commission. As data for only the more important occupations are shown separately, the group totals are not the sum of the items under the respective groups]

| Occupation | Number of employees at middle of month | | | Total earnings | | |
|---|--|------------------|------------------|---------------------|---------------------|---------------------|
| | November, 1929 | October, 1930 | November, 1930 | November, 1929 | October, 1930 | November, 1930 |
| Professional, clerical, and general | 271,833 | 245,494 | 242,839 | \$39,636,902 | \$36,779,737 | \$35,233,582 |
| Clerks..... | 153,942 | 136,315 | 134,521 | 21,230,437 | 19,364,157 | 18,262,624 |
| Stenographers and typists..... | 24,864 | 22,676 | 22,474 | 3,236,803 | 3,018,560 | 2,906,532 |
| Maintenance of way and structures | 400,689 | 337,056 | 293,534 | 37,052,448 | 32,438,959 | 26,543,586 |
| Laborers, extra gang and work train..... | 64,437 | 40,172 | 28,799 | 4,723,631 | 3,085,104 | 1,946,167 |
| Laborers, track and roadway section..... | 198,321 | 177,721 | 151,695 | 13,889,279 | 12,888,869 | 9,766,946 |
| Maintenance of equipment and stores | 456,271 | 378,794 | 376,973 | 62,688,174 | 50,689,803 | 46,738,153 |
| Carmen..... | 100,443 | 79,837 | 79,549 | 15,747,021 | 12,109,023 | 10,984,697 |
| Machinists..... | 54,532 | 47,960 | 48,046 | 9,083,188 | 7,568,749 | 6,955,261 |
| Skilled trades helpers..... | 101,580 | 83,159 | 82,705 | 12,011,683 | 9,430,801 | 8,593,256 |
| Laborers (shops, engine houses, power plants, and stores)..... | 37,269 | 31,955 | 31,654 | 3,572,771 | 3,103,577 | 2,923,088 |
| Common laborers (shops, engine houses, power plants, and stores)..... | 52,350 | 41,123 | 40,536 | 4,204,204 | 3,227,648 | 2,887,638 |
| Transportation, other than train, engine, and yard | 195,597 | 176,772 | 172,791 | 24,491,163 | 22,872,298 | 21,302,482 |
| Station agents..... | 29,106 | 28,471 | 28,349 | 4,632,357 | 4,658,003 | 4,391,919 |
| Telegraphers, telephoners, and towermen..... | 23,143 | 21,230 | 20,954 | 3,554,501 | 3,381,008 | 3,209,579 |
| Truckers (stations, warehouses, and platforms)..... | 34,748 | 28,266 | 27,059 | 3,277,155 | 2,721,366 | 2,368,815 |
| Crossing and bridge flagmen and gatemen..... | 20,380 | 19,523 | 19,408 | 1,574,541 | 1,530,320 | 1,506,232 |
| Transportation (yard masters, switch tenders, and hostlers) | 21,765 | 19,625 | 19,402 | 4,279,696 | 3,883,912 | 3,745,771 |
| Transportation, train and engine | 317,868 | 281,003 | 272,703 | 64,592,904 | 59,401,272 | 52,572,008 |
| Road conductors..... | 35,435 | 31,644 | 30,734 | 8,518,187 | 7,989,179 | 7,067,319 |
| Road brakemen and flagmen..... | 70,035 | 61,962 | 59,886 | 12,292,893 | 11,419,115 | 9,869,203 |
| Yard brakemen, and yard helpers..... | 54,787 | 47,758 | 46,559 | 9,717,161 | 8,623,134 | 7,739,573 |
| Road engineers and motormen..... | 42,170 | 37,656 | 36,541 | 11,467,077 | 10,732,101 | 9,436,009 |
| Road fireman and helpers..... | 42,483 | 38,239 | 37,150 | 8,421,864 | 7,830,631 | 6,872,920 |
| All employees | 1,664,023 | 1,438,744 | 1,378,242 | 232,741,287 | 206,065,981 | 186,155,582 |

Changes in Employment and Pay Rolls in Various States

THE following data as to changes in employment and pay rolls have been compiled from reports received from the various State labor offices:

PER CENT OF CHANGE IN EMPLOYMENT AND PAY ROLLS IN SPECIFIED STATES

Monthly period

| State, and industry group | Per cent of change, November to December, 1930 | | State, and industry group | Per cent of change, October to November, 1930 | |
|---------------------------------------|---|----------|--|--|----------|
| | Employment | Pay roll | | Employment | Pay roll |
| Arkansas | | | Illinois—Continued | | |
| Auto dealers, garages | +0.6 | -7.2 | Textiles | -2.0 | -5.6 |
| Auto bodies, wood parts | -46.6 | -37.2 | Clothing and millinery | -2.7 | -12.1 |
| Bakeries and cafes | +4.6 | +8 | Food, beverages, and tobacco | -3.5 | -4.5 |
| Beverages | -28.6 | -25.3 | Miscellaneous | -14.7 | -38.3 |
| Brick and tile | +13.6 | +26.3 | All manufacturing | -3.1 | -7.3 |
| Candy and confections | +12.3 | +4.4 | Trade, wholesale and retail | +2.4 | +9 |
| Cooperage, heading | +7.0 | +7.8 | Services | -2.0 | +1 |
| Cotton compresses, gins, and products | -3.7 | -9.3 | Public utilities | +4 | +5 |
| Coal mines | +4.4 | +17.7 | Coal mining | -7 | +2.4 |
| Furniture manufacture | -37.6 | -42.1 | Building and contracting | -10.0 | -6.0 |
| Flour, grain, feed, fertilizer | -14.7 | -14.1 | All nonmanufacturing | +2 | +4 |
| Glass factories | +46.1 | +33.7 | All industries | -1.9 | -4.2 |
| Handles, hubs, spokes | +4.3 | +13.1 | Iowa | | |
| Hotels | +4 | +5.5 | Food and kindred products | +3.5 | |
| Laundries | -4.4 | -9.8 | Textiles | -1.6 | |
| Lumber mills | -7.4 | -6.6 | Iron and steel works | -2.8 | |
| Machinery, foundries, parts | +14.2 | +6.7 | Lumber products | +1.7 | |
| Newspapers and printers | -2.5 | +1.7 | Leather products | -1.3 | |
| Packing houses | -2.1 | -4 | Paper products, printing and publishing | +2.5 | |
| Petroleum products | -4.0 | -3.6 | Patent medicines, chemicals, and compounds | -3.1 | |
| Sand, gravel, stone | -4.1 | -24.1 | Stone and clay products | -7.1 | |
| Textile mills, garments | -4.8 | -4.6 | Tobacco and cigars | +7 | |
| Public utilities | -3.9 | -3.1 | Railway-car shops | -36.2 | |
| Wholesale and retail | +4.2 | -2 | Various industries | +5.7 | |
| Miscellaneous | -1.9 | -3.2 | All industries | -4 | |
| California | | | Maryland | | |
| October to November, 1930 | | | Food products | -1.0 | -1.7 |
| Stone, clay, and glass products | -2.3 | -8.4 | Textiles | -4.6 | -7 |
| Metals, machinery, and conveyances | -1.6 | -11.2 | Iron and steel, and their products | -2.3 | -11.5 |
| Wood manufactures | -5.2 | -14.6 | Lumber and its products | -5.1 | -6.7 |
| Leather and rubber goods | -5.2 | -10.6 | Leather and its products | +4 | +20.2 |
| Chemicals, oils, paints, etc. | -3.9 | -5.3 | Rubber tires | -1.0 | -33.3 |
| Printing and paper goods | -4.0 | -7.0 | Paper and printing | -2.9 | -6 |
| Textiles | -1.9 | -13.3 | Chemicals and allied products | -5.3 | -4.2 |
| Clothing, millinery, and laundering | -6.8 | -12.4 | Stone, clay, and glass products | -4 | +7.5 |
| Foods, beverages, and tobacco | -23.5 | -22.6 | Metal products other than iron and steel | -3.6 | -8.3 |
| Motion pictures | -19.6 | -21.6 | Tobacco products | -8.4 | -28.5 |
| Miscellaneous | +5.0 | +4.7 | Transportation equipment | +3.0 | -13.7 |
| All industries | -8.8 | -12.6 | Car building and repairing | +1 | +3.0 |
| Illinois | | | Miscellaneous | -3.5 | -3.2 |
| Stone, clay, and glass products | -4.0 | -10.8 | All manufacturing | -2.6 | -6.9 |
| Metals, machinery, and conveyances | -2.9 | -8.4 | | | |
| Wood products | -1.8 | -7.1 | | | |
| Furs and leather goods | -8.6 | -22.1 | | | |
| Chemicals, oils, paints, etc. | -5.3 | -6.8 | | | |
| Printing and paper goods | +8 | +1.2 | | | |

PER CENT OF CHANGE IN EMPLOYMENT AND PAY ROLLS IN SPECIFIED STATES—
Continued

Monthly period—Continued

| State, and industry group | Per cent of change, November to December, 1930 | | State, and industry group | Per cent of change, October to November, 1930 | |
|--|---|----------------|--|--|----------|
| | Employment | Pay roll | | Employment | Pay roll |
| Maryland—Continued | | | Michigan—Continued | | |
| Retail establishments..... | +31.0 | +27.5 | Lumber and its products..... | -5.1 | -9.9 |
| Wholesale establishments..... | -4 | +3 | Leather and its products..... | -10.5 | -8.8 |
| Public utilities..... | -7 | -5.6 | Food and kindred products..... | -3.1 | -1.8 |
| Coal mines..... | +2.1 | +21.3 | Textiles and their products..... | +1.9 | +7.9 |
| Hotels..... | -2.2 | -8.5 | Tobacco products..... | +4.6 | +1.3 |
| Quarries..... | -24.8 | -23.7 | Vehicles for land transportation..... | -6.4 | -4.6 |
| Building construction..... | -23.9 | -21.3 | Miscellaneous..... | +1 | +3 |
| | | | All industries..... | -5.7 | -4.7 |
| | Employment—index numbers (1925-1927=100) | | New Jersey | | |
| | October, 1930 | November, 1930 | Food and kindred products..... | -2 | +3 |
| | | | Textiles and their products..... | -5 | -8 |
| Massachusetts | | | Iron and steel and their products..... | -3.1 | -5.9 |
| Boot and shoe cut stock and findings..... | 97.6 | 84.7 | Lumber and its products..... | +2.0 | +5.2 |
| Boots and shoes..... | 75.2 | 65.6 | Leather and its products..... | -2.7 | -5.6 |
| Bread and other bakery products..... | 105.6 | 107.5 | Tobacco products..... | -3.8 | -5.6 |
| Clothing, men's..... | 87.6 | 72.5 | Paper and printing..... | +3.1 | +3.0 |
| Clothing, women's..... | 106.8 | 103.2 | Chemicals and allied products..... | -1.0 | +1 |
| Confectionery..... | 108.8 | 107.5 | Stone, clay, and glass products..... | -2.7 | -9.3 |
| Cotton goods..... | 51.2 | 51.4 | Metal products other than iron and steel..... | -4.6 | -4.1 |
| Dyeing and finishing textiles..... | 86.7 | 89.3 | Vehicles for land transportation..... | | -1.5 |
| Electrical machinery, apparatus, and supplies..... | 70.0 | 68.1 | Miscellaneous..... | -6.7 | -19.0 |
| Foundry and machine-shop products..... | 97.5 | 94.5 | All industries..... | -2.7 | -6.2 |
| Furniture..... | 82.6 | 80.9 | | | |
| Hosiery and knit goods..... | 73.0 | 69.9 | November to December, 1930 | | |
| Leather, tanned, curried, and finished..... | 92.7 | 88.0 | New York | | |
| Paper and wood pulp..... | 88.4 | 85.2 | Stone, clay, and glass..... | -3.6 | -2.9 |
| Printing and publishing..... | 103.5 | 103.5 | Miscellaneous stone and minerals..... | +1.4 | +2.7 |
| Rubber footwear..... | 75.7 | 76.4 | Lime, cement, and plaster..... | -6.2 | -6.9 |
| Rubber goods, tires, and tubes..... | 55.6 | 55.0 | Brick, tile, and pottery..... | -11.6 | -14.1 |
| Silk goods..... | 56.7 | 67.2 | Glass..... | +3.2 | +5.0 |
| Textile machinery and parts..... | 56.1 | 58.2 | Metals and machinery..... | -2.7 | -2.8 |
| Woolen and worsted goods..... | 65.4 | 62.3 | Silver and jewelry..... | -4.2 | -8.9 |
| All industries..... | 72.5 | 70.4 | Brass, copper, and aluminum..... | +1 | +3.0 |
| | | | Iron and steel..... | -8.8 | -16.1 |
| | Per cent of change, October to November, 1930 | | Structural and architectural iron..... | -1.4 | -1.4 |
| | Employment | Pay roll | Sheet metal and hardware..... | -2.5 | -3.8 |
| Michigan | | | Firearms, tools, and cutlery..... | -3.8 | -9 |
| Paper and printing..... | -3.1 | -3.7 | Cooking, heating, and ventilating apparatus..... | -4.8 | -10.6 |
| Chemicals and allied products..... | -1.1 | -1.3 | Machinery, including electrical apparatus..... | -2.1 | -1.8 |
| Stone, clay, and glass products..... | -8.2 | -13.7 | Automobiles, carriages, and airplanes..... | -8.7 | -14.6 |
| Metal products, not iron and steel..... | +2.3 | +1.6 | Railroad equipment and repair..... | -1.5 | +5.0 |
| Iron and steel products..... | -10.6 | -11.2 | Boat and ship building..... | +12.4 | +10.0 |
| | | | Instruments and appliances..... | -1.2 | -1.4 |

[440]

PER CENT OF CHANGE IN EMPLOYMENT AND PAY ROLLS IN SPECIFIED STATES—
Continued

Monthly period—Continued

| State, and industry group | Per cent of change, November to December, 1930 | | State, and industry group | Per cent of change, October to November, 1930 | |
|------------------------------------|---|----------|---|--|----------|
| | Employment | Pay roll | | Employment | Pay roll |
| Texas | | | Wisconsin—Continued | | |
| Auto and body works..... | -5.8 | ----- | Manual—Continued | | |
| Bakeries..... | -5.7 | ----- | Stone crushing and quarrying..... | +4.2 | -1.4 |
| Confectioneries..... | +9.9 | ----- | Manufacturing: | | |
| Pure food products..... | -4.0 | ----- | Stone and allied industries..... | -14.8 | -9.7 |
| Ice cream factories..... | -7.5 | ----- | Metal..... | -3.1 | -13.9 |
| Flour mills..... | -3 | ----- | Wood..... | -2.7 | -8.4 |
| Ice factories..... | +5.4 | ----- | Rubber..... | -7.9 | -17.6 |
| Meat packing and slaughtering..... | +21.0 | ----- | Leather..... | -8.8 | -15.2 |
| Cotton-oil mills..... | -15.1 | ----- | Paper..... | -1.7 | -6.3 |
| Cotton compresses..... | -11.2 | ----- | Textiles..... | -4.5 | -8.5 |
| Men's clothing manufacture..... | +6.5 | ----- | Foods..... | -5.0 | -7.5 |
| Women's clothing manufacture..... | +18.5 | ----- | Printing and publishing..... | +2 | .0 |
| Brick, tile, and terra cotta..... | -5.9 | ----- | Chemicals (including soap, glue, and explosives)..... | -1.0 | -7.5 |
| Foundries and machine shops..... | +6 | ----- | All manufacturing..... | -3.9 | -10.9 |
| Structural-iron works..... | -7.7 | ----- | Construction: | | |
| Railroad car shops..... | -1.8 | ----- | Building..... | -8.8 | -13.9 |
| Electric-railway car shops..... | -12.7 | ----- | Highway..... | -9.0 | -9.4 |
| Petroleum refining..... | -5.3 | ----- | Railroad..... | -17.0 | -11.8 |
| Sawmills..... | +3.7 | ----- | Marine dredging, sewer digging..... | -19.5 | -25.1 |
| Lumber mills..... | -2 | ----- | Communication: | | |
| Furniture manufacture..... | -4.2 | ----- | Steam railways..... | -7.2 | -6.5 |
| Paper-box manufacture..... | -1.1 | ----- | Electric railways..... | -1.4 | -9.0 |
| Cotton textile mills..... | -2.6 | ----- | Express, telephone, and telegraph..... | .0 | -3.6 |
| Cement plants..... | +8.4 | ----- | Light and power..... | -4.2 | -4.2 |
| Commercial printing..... | -2.2 | ----- | Wholesale trade..... | -7.1 | -3.9 |
| Newspaper publishing..... | -1.0 | ----- | Hotels and restaurants..... | -2.6 | ----- |
| Quarrying..... | -2.2 | ----- | Laundrying and dyeing..... | -1.2 | -4.8 |
| Public utilities..... | -1.7 | ----- | | | |
| Retail stores..... | +7.2 | ----- | | | |
| Wholesale stores..... | -1.7 | ----- | | | |
| Hotels..... | -1.5 | ----- | | | |
| Miscellaneous..... | -4.7 | ----- | | | |
| All industries..... | -2.3 | ----- | | | |
| | | | Nonmanual | | |
| | | | Manufacturing, mines, and quarries..... | -7 | -1.8 |
| Wisconsin | | | Construction..... | -1.0 | -2.2 |
| | | | Communication..... | -2.2 | -3.1 |
| Manual | | | Wholesale trade..... | -1.1 | -1.0 |
| Logging..... | +61.9 | +61.4 | Retail trade, sales force only..... | +3.8 | +1.0 |
| Mining: | | | Miscellaneous professional services..... | -3 | -1.4 |
| Lead and zinc..... | -6.7 | +13.5 | | | |
| Iron..... | -7.3 | -10.5 | | | |

PER CENT OF CHANGE IN EMPLOYMENT AND PAY ROLLS IN SPECIFIED STATES—
Continued

Yearly period

| State, and industry group | Per cent of change, November, 1929 to November, 1930 | | State, and industry group | Employment—index numbers (1925—1927 = 100) | |
|--|--|----------|---|--|----------------|
| | Employment | Pay roll | | November, 1929 | November, 1930 |
| California | | | Massachusetts—Con. | | |
| Stone, clay, and glass products..... | -28.7 | -32.2 | Furniture..... | 103.6 | 80.9 |
| Metals, machinery, and conveyances..... | -21.1 | -32.8 | Hosiery and knit goods..... | 83.4 | 69.9 |
| Wood manufactures..... | -21.6 | -32.2 | Leather, tanned, curried, and finished..... | 104.9 | 88.0 |
| Leather and rubber goods..... | -24.5 | -26.8 | Paper and wood pulp..... | 95.9 | 85.2 |
| Chemicals, oils, paints, etc..... | -32.1 | -35.2 | Printing and publishing..... | 110.1 | 103.5 |
| Printing and paper goods..... | -6.9 | -9.5 | Rubber footwear..... | 88.1 | 76.4 |
| Textiles..... | -7.2 | -19.7 | Rubber goods, tires, and tubes..... | 74.6 | 55.0 |
| Clothing, millinery, and laundering..... | -11.4 | -13.9 | Silk goods..... | 82.9 | 67.2 |
| Foods, beverages, and tobacco..... | -12.6 | -11.4 | Textile machinery and parts..... | 85.6 | 58.2 |
| Miscellaneous ⁴ | -50.8 | -41.3 | Woolen and worsted goods..... | 74.2 | 62.3 |
| All industries..... | -22.6 | -28.8 | All industries..... | 86.8 | 70.4 |
| Public utilities..... | -6.5 | -9.1 | Per cent of change, December, 1929, to December, 1930 | | |
| Wholesale and retail..... | -6.2 | -7.6 | | | |
| Employment—index numbers (1925— 1927 = 100) | | | Employment | Pay roll | |
| | | | November, 1929 | November, 1930 | |
| Illinois | | | New York | | |
| Stone, clay, and glass products..... | 86.9 | 76.1 | Stone, clay, and glass..... | -13.0 | -17.6 |
| Metals, machinery, and conveyances..... | 112.5 | 78.7 | Miscellaneous stone and minerals..... | -12.3 | -8.3 |
| Wood products..... | 76.7 | 57.3 | Lime, cement, and plaster..... | -13.5 | -17.3 |
| Furs and leather goods..... | 99.1 | 74.8 | Brick, tile, and pottery..... | -10.2 | -21.6 |
| Chemicals, oils, paints, etc..... | 99.7 | 80.1 | Glass..... | -16.0 | -24.3 |
| Printing and paper goods..... | 108.2 | 96.2 | Metals and machinery..... | -23.7 | -31.5 |
| Textiles..... | 98.9 | 86.9 | Silver and jewelry..... | -18.6 | -30.8 |
| Clothing and millinery..... | 83.7 | 66.2 | Brass, copper, and aluminum..... | -15.6 | -24.1 |
| Foods, beverages, and tobacco..... | 95.5 | 80.6 | Iron and steel..... | -19.7 | -28.6 |
| All manufacturing..... | 102.7 | 77.7 | Structural and architectural iron..... | -18.4 | -27.0 |
| Trade, wholesale and retail..... | 92.3 | 71.9 | Sheet metal and hardware..... | -17.9 | -22.3 |
| Public utilities..... | 107.2 | 98.1 | Firearms, tools, and cutlery..... | -14.2 | -24.4 |
| Coal mining..... | 78.9 | 85.6 | Cooking, heating, and ventilating apparatus..... | -27.7 | -40.5 |
| Building and contracting..... | 91.3 | 60.1 | Machinery, including electrical apparatus..... | -26.1 | -33.8 |
| All industries..... | 101.9 | 81.8 | Automobiles, carriages, and airplanes..... | -33.9 | -44.4 |
| Massachusetts | | | Railroad equipment and repair..... | -26.0 | -29.2 |
| Boot and shoe cut stock and findings..... | 109.8 | 84.7 | Boat and ship building..... | -14.8 | -26.1 |
| Boots and shoes..... | 80.8 | 65.6 | Instruments and appliances..... | -17.9 | -26.3 |
| Bread and other bakery products..... | 113.4 | 107.5 | Wood manufactures..... | -17.6 | -26.2 |
| Clothing, men's..... | 87.0 | 72.5 | Saw and planing mills..... | -19.1 | -22.6 |
| Clothing, women's..... | 109.5 | 103.2 | Furniture and cabinet-work..... | -24.2 | -33.4 |
| Confectionery..... | 99.9 | 107.5 | Pianos and other musical instruments..... | -4.8 | -20.3 |
| Cotton goods..... | 73.9 | 51.4 | Miscellaneous wood..... | -13.9 | -20.7 |
| Dyeing and finishing textiles..... | 91.2 | 89.3 | Furs, leather, and rubber goods..... | -12.1 | -26.3 |
| Electrical machinery, apparatus, and supplies..... | 92.0 | 68.1 | Leather..... | -14.9 | -15.4 |
| Foundry and machine-shop products..... | 113.7 | 94.5 | Furs and fur goods..... | -4 | -3.8 |
| | | | Shoes..... | -9.9 | -28.0 |
| | | | Other leather and canvas goods..... | -16.3 | -28.8 |

⁴ Includes motion pictures.

[442]

PER CENT OF CHANGE IN EMPLOYMENT AND PAY ROLLS IN SPECIFIED STATES—

Continued

Yearly period—Continued

| State, and industry group | Per cent of change, December, 1929, to December, 1930 | | State, and industry group | Per cent of change, December, 1929, to December, 1930 | |
|--|---|----------|--|---|----------|
| | Employment | Pay roll | | Employment | Pay roll |
| New York—Continued | | | Oklahoma—Continued | | |
| Furs, leather, and rubber goods—Continued. | | | Oil industry: | | |
| Rubber and gutta-percha..... | -25.4 | -33.0 | Producing and gasoline manufacture..... | -27.0 | -22.1 |
| Pearl, horn, bone, etc..... | -15.9 | -24.5 | Refineries..... | -1.9 | +1.8 |
| Chemicals, oils, paints, etc..... | -4.8 | -8.1 | Printing: Job work..... | -1.8 | -5.7 |
| Drugs and chemicals..... | +1.2 | -2.6 | Public utilities: | | |
| Paints and colors..... | -16.3 | -16.4 | Steam-railway shops..... | -30.8 | -33.6 |
| Oil products..... | -7.4 | -8.7 | Street railways..... | -4.1 | +0 |
| Miscellaneous chemicals..... | -3.4 | -9.3 | Water, light, and power..... | -2.1 | +1.5 |
| Paper..... | -14.4 | -24.3 | Stone, clay, and glass: | | |
| Printing and paper goods..... | -8.4 | -10.1 | Brick and tile..... | -45.0 | -50.3 |
| Paper boxes and tubes..... | -12.5 | -19.9 | Cement and plaster..... | +9.4 | -2.9 |
| Miscellaneous paper goods..... | -9.9 | -10.4 | Crushed stone..... | +17.6 | +36.8 |
| Printing and bookmaking..... | -7.6 | -9.3 | Glass manufacture..... | -7.6 | +6 |
| Textiles..... | -27.7 | -35.2 | Textiles and cleaning: | | |
| Silk and silk goods..... | -16.2 | -20.6 | Textile manufacture..... | -18.7 | -26.1 |
| Wool manufactures..... | -39.8 | -49.0 | Laundries, etc..... | +9 | -1.2 |
| Cotton goods..... | -24.7 | -30.3 | Woodworking: | | |
| Knit goods (excluding silk)..... | -18.8 | -25.2 | Sawmills..... | -34.3 | -50.1 |
| Other textiles..... | -26.9 | -32.7 | Millwork, etc..... | -23.1 | -32.3 |
| Clothing and millinery..... | -14.9 | -22.3 | All industries..... | -11.7 | -13.4 |
| Men's clothing..... | -19.7 | -37.3 | | | |
| Men's furnishings..... | -22.0 | -30.6 | Index numbers (1923-1925=100)—employment | | |
| Women's clothing..... | -9.3 | -10.8 | | | |
| Women's underwear..... | -12.8 | -18.2 | Decem-ber, 1929 | Decem-ber, 1930 | |
| Women's headwear..... | -15.0 | -23.7 | | | |
| Miscellaneous sewing..... | -17.7 | -26.4 | | | |
| Laundering and cleaning..... | -4.2 | -6.3 | | | |
| Food and tobacco..... | -12.9 | -14.6 | | | |
| Flour, feed, and cereals..... | -10.6 | -13.4 | | | |
| Canning and preserving..... | -7.8 | -3.4 | Pennsylvania | | |
| Other groceries..... | -15.2 | -15.9 | Metal products..... | 96.8 | 78.8 |
| Meat and dairy products..... | -8.1 | -11.9 | Transportation equipment..... | 82.1 | 59.4 |
| Bakery products..... | -12.5 | -13.9 | Textile products..... | 106.3 | 90.7 |
| Candy..... | -5.7 | -11.1 | Foods and tobacco..... | 110.0 | 105.0 |
| Beverages..... | -5.1 | -6.6 | Stone, clay, and glass products..... | 80.9 | 61.0 |
| Tobacco..... | -32.0 | -31.8 | Lumber products..... | 95.7 | 60.2 |
| Water, light, and power..... | -3 | +5 | Chemical products..... | 98.7 | 93.1 |
| All Industries..... | -17.7 | -24.2 | Leather and rubber products..... | 102.9 | 91.0 |
| Oklahoma | | | Paper and printing..... | 103.1 | 97.0 |
| Cottonseed-oil mills..... | -7.1 | -26.2 | All manufacturing..... | 97.7 | 82.5 |
| Food production: | | | | | |
| Bakeries..... | -5.3 | -7.3 | Pay roll | | |
| Confections..... | +11.7 | +5.8 | | | |
| Creameries and dairies..... | +27.5 | +48.6 | Metal products..... | 98.3 | 64.7 |
| Flour mills..... | -16.4 | -3.9 | Transportation equipment..... | 88.1 | 46.5 |
| Ice and ice cream..... | -8.9 | -11.4 | Textile products..... | 112.1 | 84.3 |
| Meat and poultry..... | -8.1 | -13.8 | Foods and tobacco..... | 110.1 | 101.4 |
| Lead and zinc: | | | Stone, clay, and glass products..... | 78.5 | 49.1 |
| Mines and mills..... | -32.4 | -37.3 | Lumber products..... | 97.4 | 51.3 |
| Smelters..... | +5.3 | -21.0 | Chemical products..... | 101.0 | 88.8 |
| Metals and machinery: | | | Leather and rubber products..... | 106.5 | 89.3 |
| Auto repairs, etc..... | -12.3 | -28.0 | Paper and printing..... | 111.3 | 101.8 |
| Machine shops and foundries..... | -34.3 | -41.0 | All manufacturing..... | 99.8 | 70.8 |
| Tank construction and erection..... | -8.1 | +4.9 | | | |

^a Preliminary figures.

PER CENT OF CHANGE IN EMPLOYMENT AND PAY ROLLS IN SPECIFIED STATES—
Continued

Yearly period—Continued

| State, and industry group | Per cent of change, December, 1929, to December, 1930 | | State, and industry group | Per cent of change, December, 1929, to December, 1930 | |
|---|---|----------|------------------------------|---|----------|
| | Employ- ment | Pay roll | | Employ- ment | Pay roll |
| Texas | | | Texas—Continued | | |
| Auto and body works..... | +11.2 | ----- | Electric-railway car shops.. | -9.8 | ----- |
| Bakeries..... | -18.3 | ----- | Petroleum refining..... | -21.6 | ----- |
| Confectioneries..... | -20.8 | ----- | Sawmills..... | -41.6 | ----- |
| Pure-food products..... | -37.9 | ----- | Lumber mills..... | -18.7 | ----- |
| Ice-cream factories..... | -10.9 | ----- | Furniture manufacture..... | -17.9 | ----- |
| Flour mills..... | -10.3 | ----- | Paper-box manufacture..... | +4.5 | ----- |
| Ice factories..... | -17.2 | ----- | Cotton textile mills..... | -29.0 | ----- |
| Meat packing and slaugh- tering..... | -1.3 | ----- | Cement plants..... | -19.8 | ----- |
| Cotton-oil mills..... | -23.2 | ----- | Commercial printing..... | -7.4 | ----- |
| Cotton compresses..... | +2.0 | ----- | Newspaper publishing..... | -6 | ----- |
| Men's clothing manufacture..... | -18.6 | ----- | Quarrying..... | -7.4 | ----- |
| Women's clothing manu- facture..... | -1.3 | ----- | Public utilities..... | -4.2 | ----- |
| Brick, tile, and terra cotta..... | +34.6 | ----- | Retail stores..... | -11.0 | ----- |
| Foundries and machine shops..... | -37.8 | ----- | Wholesale stores..... | -7.8 | ----- |
| Structural-iron works..... | -18.6 | ----- | Hotels..... | -4.5 | ----- |
| Railroad car shops..... | -35.5 | ----- | Miscellaneous..... | -11.6 | ----- |
| | | | All industries..... | -18.5 | ----- |

WHOLESALE AND RETAIL PRICES

Retail Prices of Food in December, 1930

THE following tables are compiled from simple averages of the actual selling prices ¹ received monthly by the Bureau of Labor Statistics from retail dealers.

Table 1 shows for the United States retail prices of food December 15, 1929, and November 15 and December 15, 1930, as well as the percentage changes in the year and in the month. For example, the retail price per quart of fresh milk was 14.4 cents on December 15, 1929; 14.0 cents on November 15, 1930; and 13.5 cents on December 15, 1930. These figures show decreases of 6 per cent in the year and 4 per cent in the month.

The cost of various articles of food combined shows a decrease of 13.2 per cent December 15, 1930, as compared with December 15, 1929, and a decrease of 3.0 per cent December 15, 1930, as compared with November 15, 1930.

Table 2 shows for the United States average retail prices of specified food articles on December 15, 1913, and on December 15 of each year from 1924 to 1930, together with percentage changes in December of each of these specified years compared with December, 1913. For example, the retail price per dozen of strictly fresh eggs was 47.6 cents in December, 1913; 69.8 cents in December, 1924; 66.2 cents in December, 1925; 65.2 cents in December, 1926; 59.6 cents in December, 1927; 58.4 cents in December, 1928; 62.8 cents in December, 1929; and 41.6 cents in December, 1930.

As compared with December, 1913, these figures show increases of 47 per cent in December, 1924; 39 per cent in December, 1925; 37 per cent in December, 1926; 25 per cent in December, 1927; 23 per cent in December, 1928; and 32 per cent in December, 1929. In December, 1930, there was a decrease of 13 per cent as compared with December, 1913.

The cost of the various articles of food combined showed an increase of 32.0 per cent in December, 1930, as compared with December, 1913.

¹ In addition to monthly retail prices of food and coal, the bureau publishes periodically the prices of gas and electricity for household use in each of 51 cities. At present this information is being collected in June and December of each year.

TABLE 1.—AVERAGE RETAIL PRICES OF SPECIFIED FOOD ARTICLES AND PER CENT OF INCREASE OR DECREASE DECEMBER 15, 1930, COMPARED WITH DECEMBER 15, 1929, AND NOVEMBER 15, 1930

[Percentage changes of five-tenths of 1 per cent and over are given in whole numbers]

| Article | Unit | Average retail price on— | | | Per cent of increase (+) or decrease (—) Dec. 15, 1930 compared with— | |
|---|---------------------|--------------------------|---------------|---------------|---|---------------|
| | | Dec. 15, 1929 | Nov. 15, 1930 | Dec. 15, 1930 | Dec. 15, 1929 | Nov. 15, 1930 |
| | | <i>Cents</i> | <i>Cents</i> | <i>Cents</i> | | |
| Sirloin steak..... | Pound..... | 48.9 | 43.3 | 42.9 | -12 | -1 |
| Round steak..... | do..... | 43.4 | 38.1 | 37.7 | -13 | -1 |
| Rib roast..... | do..... | 36.0 | 31.8 | 31.6 | -12 | -1 |
| Chuck roast..... | do..... | 29.3 | 24.7 | 24.6 | -16 | -0.4 |
| Plate beef..... | do..... | 20.6 | 16.9 | 16.9 | -18 | 0 |
| Pork chops..... | do..... | 34.3 | 32.8 | 31.4 | -8 | -4 |
| Bacon, sliced..... | do..... | 42.5 | 42.1 | 41.3 | -3 | -2 |
| Ham, sliced..... | do..... | 53.4 | 52.1 | 51.5 | -4 | -1 |
| Lamb, leg of..... | do..... | 37.9 | 31.4 | 31.1 | -18 | -1 |
| Hens..... | do..... | 37.1 | 32.6 | 32.0 | -14 | -2 |
| Salmon, red, canned..... | do..... | 32.2 | 34.3 | 34.3 | +7 | 0 |
| Milk, fresh..... | Quart..... | 14.4 | 14.0 | 13.5 | -6 | -4 |
| Milk, evaporated..... | 16-oz. can..... | 10.4 | 9.9 | 9.9 | -5 | 0 |
| Butter..... | Pound..... | 51.6 | 45.4 | 42.5 | -18 | -6 |
| Oleomargarine (all butter substitutes)..... | do..... | 26.7 | 24.6 | 24.5 | -8 | -0.4 |
| Cheese..... | do..... | 37.7 | 33.8 | 33.2 | -12 | -2 |
| Lard..... | do..... | 17.6 | 17.5 | 16.7 | -5 | -5 |
| Vegetable lard substitute..... | do..... | 24.4 | 24.0 | 23.8 | -1 | -1 |
| Eggs, strictly fresh..... | Dozen..... | 62.8 | 48.4 | 41.6 | -34 | -14 |
| Bread..... | Pound..... | 8.9 | 8.5 | 8.5 | -4 | 0 |
| Flour..... | do..... | 5.1 | 4.2 | 4.1 | -20 | -2 |
| Corn meal..... | do..... | 5.4 | 5.2 | 5.2 | -4 | 0 |
| Rolled oats..... | do..... | 8.8 | 8.6 | 8.6 | -2 | 0 |
| Corn flakes..... | 8-oz. package..... | 9.5 | 9.3 | 9.3 | -2 | 0 |
| Wheat cereal..... | 28-oz. package..... | 25.5 | 25.3 | 25.3 | -1 | 0 |
| Macaroni..... | Pound..... | 19.6 | 18.9 | 18.6 | -5 | -2 |
| Rice..... | do..... | 9.6 | 9.3 | 9.2 | -4 | -1 |
| Beans, navy..... | do..... | 13.1 | 10.2 | 9.7 | -26 | -5 |
| Potatoes..... | do..... | 3.8 | 2.9 | 2.9 | -24 | 0 |
| Onions..... | do..... | 5.0 | 3.9 | 3.9 | -22 | 0 |
| Cabbage..... | do..... | 4.4 | 3.4 | 3.7 | -16 | +9 |
| Pork and beans..... | No. 2 can..... | 11.5 | 10.7 | 10.7 | -7 | 0 |
| Corn, canned..... | do..... | 15.7 | 15.1 | 14.9 | -5 | -1 |
| Peas, canned..... | do..... | 16.5 | 15.9 | 15.7 | -5 | -1 |
| Tomatoes, canned..... | do..... | 12.5 | 11.7 | 11.5 | -8 | -2 |
| Sugar..... | Pound..... | 6.6 | 5.9 | 5.9 | -11 | 0 |
| Tea..... | do..... | 77.7 | 76.9 | 76.9 | -1 | 0 |
| Coffee..... | do..... | 46.3 | 38.7 | 38.5 | -17 | -1 |
| Prunes..... | do..... | 18.2 | 13.6 | 13.1 | -28 | -4 |
| Raisins..... | do..... | 12.3 | 11.5 | 11.4 | -7 | -1 |
| Bananas..... | Dozen..... | 32.2 | 29.3 | 29.0 | -10 | -1 |
| Oranges..... | do..... | 43.5 | 51.1 | 35.7 | -18 | -30 |
| Weighted food index..... | | | | | -13.2 | -3.0 |

TABLE 2.—AVERAGE RETAIL PRICES OF SPECIFIED FOOD ARTICLES AND PER CENT OF INCREASE DECEMBER 15 OF CERTAIN SPECIFIED YEARS COMPARED WITH DECEMBER 15, 1913

[Percentage changes of five-tenths of 1 per cent and over are given in whole numbers]

| Article | Average retail prices on Dec. 15— | | | | | | | | Per cent of increase Dec. 15 of each specified year compared with Dec. 15, 1913 | | | | | | | |
|--|-----------------------------------|------|------|------|------|------|------|------|---|------|------|------|------|------|------|--|
| | 1913 | 1924 | 1925 | 1926 | 1927 | 1928 | 1929 | 1930 | 1924 | 1925 | 1926 | 1927 | 1928 | 1929 | 1930 | |
| | Cts. | Cts. | Cts. | Cts. | Cts. | Cts. | Cts. | Cts. | | | | | | | | |
| Sirloin steak—pound | 25.1 | 38.2 | 40.3 | 40.7 | 43.9 | 48.2 | 48.9 | 42.9 | 52 | 61 | 62 | 75 | 92 | 95 | 71 | |
| Round steak—do | 22.6 | 32.4 | 34.4 | 35.3 | 38.2 | 42.7 | 43.4 | 37.7 | 43 | 52 | 56 | 69 | 89 | 92 | 67 | |
| Rib roast—do | 19.9 | 28.0 | 29.6 | 30.2 | 32.4 | 35.7 | 36.0 | 31.6 | 41 | 49 | 52 | 63 | 79 | 81 | 59 | |
| Chuck roast—do | 16.2 | 20.2 | 21.7 | 22.7 | 25.1 | 29.1 | 29.3 | 24.6 | 25 | 34 | 40 | 55 | 80 | 81 | 52 | |
| Plate beef—do | 12.4 | 13.1 | 14.1 | 14.9 | 16.7 | 20.4 | 20.6 | 16.9 | 6 | 14 | 20 | 35 | 65 | 66 | 36 | |
| Pork chops—do | 20.3 | 29.3 | 35.7 | 37.2 | 32.8 | 31.3 | 34.3 | 31.4 | 44 | 76 | 83 | 62 | 54 | 69 | 55 | |
| Bacon, sliced—do | 26.7 | 39.9 | 48.6 | 49.6 | 45.3 | 43.3 | 42.5 | 41.3 | 49 | 82 | 86 | 70 | 62 | 59 | 55 | |
| Ham, sliced—do | 26.5 | 46.6 | 53.1 | 57.1 | 51.9 | 53.4 | 53.4 | 51.5 | 76 | 100 | 115 | 96 | 102 | 102 | 94 | |
| Lamb, leg of—do | 18.5 | 35.4 | 38.5 | 37.7 | 37.5 | 37.6 | 37.9 | 31.1 | 91 | 108 | 104 | 103 | 103 | 105 | 68 | |
| Hens—do | 20.8 | 34.4 | 36.5 | 37.2 | 35.7 | 37.9 | 37.1 | 32.0 | 65 | 75 | 79 | 72 | 82 | 78 | 54 | |
| Salmon, red, canned—pound | | 31.8 | 36.9 | 34.1 | 35.0 | 31.9 | 32.2 | 34.3 | | | | | | | | |
| Milk, fresh—quart | 9.1 | 13.8 | 14.3 | 14.2 | 14.3 | 14.3 | 14.4 | 13.5 | 52 | 57 | 56 | 57 | 57 | 58 | 48 | |
| Milk, evaporated—16-ounce can | | 11.0 | 11.6 | 11.4 | 11.5 | 11.4 | 10.4 | 9.9 | | | | | | | | |
| Butter—pound | 39.7 | 52.5 | 58.6 | 59.3 | 58.4 | 59.3 | 51.6 | 42.5 | 32 | 48 | 49 | 47 | 49 | 30 | 7 | |
| Oleomargarine (all butter substitutes)—pound | | 30.3 | 31.3 | 29.6 | 27.9 | 27.5 | 26.7 | 24.5 | | | | | | | | |
| Cheese—do | 22.5 | 34.9 | 37.5 | 37.4 | 39.0 | 38.5 | 37.7 | 33.2 | 55 | 67 | 66 | 73 | 71 | 68 | 48 | |
| Lard—do | 15.8 | 22.1 | 22.6 | 20.4 | 19.2 | 18.7 | 17.6 | 16.7 | 40 | 43 | 29 | 22 | 18 | 11 | 6 | |
| Vegetable lard substitute—pound | | 25.5 | 25.7 | 25.4 | 25.2 | 24.8 | 24.4 | 23.8 | | | | | | | | |
| Eggs, strictly fresh—dozen | 47.6 | 69.8 | 66.2 | 65.2 | 56.6 | 58.4 | 62.8 | 41.6 | 47 | 39 | 37 | 25 | 23 | 32 | 1 13 | |
| Bread—pound | 5.6 | 8.9 | 9.4 | 9.4 | 9.2 | 9.0 | 8.9 | 8.5 | 59 | 68 | 68 | 64 | 61 | 59 | 52 | |
| Flour—do | 3.3 | 5.6 | 6.1 | 5.6 | 5.4 | 5.1 | 5.1 | 4.1 | 70 | 85 | 70 | 64 | 55 | 55 | 24 | |
| Corn meal—do | 3.1 | 5.2 | 5.2 | 5.1 | 5.2 | 5.3 | 5.4 | 5.2 | 68 | 68 | 65 | 68 | 71 | 74 | 68 | |
| Rolled oats—do | | 9.0 | 9.1 | 9.1 | 9.0 | 8.9 | 8.8 | 8.6 | | | | | | | | |
| Corn flakes—8-ounce package | | 10.8 | 11.0 | 10.9 | 9.7 | 9.5 | 9.5 | 9.3 | | | | | | | | |
| Wheat cereal—28-ounce package | | 24.4 | 25.3 | 25.4 | 25.5 | 25.5 | 25.5 | 25.3 | | | | | | | | |
| Macaroni—pound | | 19.8 | 20.4 | 20.2 | 20.0 | 19.7 | 19.6 | 18.6 | | | | | | | | |
| Rice—do | 8.7 | 10.6 | 11.4 | 11.2 | 10.3 | 9.9 | 9.6 | 9.2 | 22 | 31 | 29 | 18 | 14 | 10 | 6 | |
| Beans, navy—do | | 10.1 | 9.8 | 9.3 | 9.5 | 12.8 | 13.1 | 9.7 | | | | | | | | |
| Potatoes—do | 1.8 | 2.3 | 5.2 | 4.0 | 3.0 | 2.2 | 3.8 | 2.9 | 28 | 189 | 122 | 67 | 22 | 111 | 61 | |
| Onions—do | | 5.3 | 5.7 | 5.0 | 4.7 | 7.1 | 5.0 | 3.9 | | | | | | | | |
| Cabbage—do | | 4.0 | 4.6 | 4.2 | 3.8 | 4.7 | 4.4 | 3.7 | | | | | | | | |
| Pork and beans—No. 2 can | | 12.6 | 12.3 | 11.7 | 11.4 | 11.7 | 11.5 | 10.7 | | | | | | | | |
| Corn, canned—do | | 17.1 | 16.9 | 16.2 | 15.7 | 15.9 | 15.7 | 14.9 | | | | | | | | |
| Peas, canned—do | | 18.4 | 17.9 | 17.3 | 16.7 | 16.7 | 16.5 | 15.7 | | | | | | | | |
| Tomatoes, canned—No. 2 can | | 13.7 | 12.7 | 12.2 | 11.8 | 12.0 | 12.5 | 11.5 | | | | | | | | |
| Sugar, granulated—pound | 5.4 | 8.8 | 6.7 | 7.3 | 7.1 | 6.7 | 6.6 | 5.9 | 63 | 24 | 35 | 31 | 24 | 22 | 9 | |
| Tea—do | 54.5 | 73.8 | 75.8 | 76.9 | 77.3 | 77.3 | 77.7 | 76.9 | 35 | 39 | 41 | 42 | 42 | 43 | 41 | |
| Coffee—do | 29.7 | 50.5 | 51.3 | 50.7 | 48.1 | 49.7 | 46.3 | 38.5 | 70 | 73 | 71 | 62 | 67 | 56 | 30 | |
| Prunes—do | | 17.3 | 17.1 | 16.2 | 13.8 | 14.1 | 18.2 | 13.1 | | | | | | | | |
| Raisins—do | | 14.6 | 14.4 | 14.4 | 13.7 | 11.8 | 12.3 | 11.4 | | | | | | | | |
| Bananas—dozen | | 36.9 | 35.5 | 34.9 | 34.8 | 33.5 | 32.2 | 29.0 | | | | | | | | |
| Oranges—do | | 43.2 | 48.9 | 49.3 | 52.3 | 47.6 | 43.5 | 35.7 | | | | | | | | |
| All articles combined ¹ | | | | | | | | | 45.7 | 59.2 | 55.7 | 50.0 | 49.9 | 52.0 | 32.0 | |

¹ Decrease.² Beginning with January, 1921, index numbers showing the trend in the retail cost of food have been composed of the articles shown in Tables 1 and 2, weighted according to the consumption of the average family. From January, 1913, to December, 1920, the index numbers included the following articles: Sirloin steak, round steak, rib roast, chuck roast, plate beef, pork chops, bacon, ham, lard, hens, flour, corn meal, eggs, butter, milk, bread, potatoes, sugar, cheese, rice, coffee, and tea.

Table 3 shows for the United States average retail prices of specified articles of food for the years 1913 and 1930 and for each month of 1930.

TABLE 3.—AVERAGE RETAIL PRICES OF SPECIFIED FOOD ARTICLES IN THE UNITED STATES BY YEARS 1913 AND 1930 AND BY MONTHS FOR 1930

| Article | Unit | Aver- age for year 1913 | 1930 | | | | | | | | | | | | Aver- age for year 1930 |
|--|-------|-------------------------------------|------------|------------|------------|------------|-----------|------------|------------|------------|-------------|------------|------------|------------|-------------------------------------|
| | | | Jan. 15 | Feb. 15 | Mar. 15 | Apr. 15 | May 15 | June 15 | July 15 | Aug. 15 | Sept. 15 | Oct. 15 | Nov. 15 | Dec. 15 | |
| Sirloin steak | Pound | Cts. 25.4 | Cts. 49.0 | Cts. 48.6 | Cts. 48.4 | Cts. 48.3 | Cts. 48.3 | Cts. 47.9 | Cts. 46.3 | Cts. 44.6 | Cts. 45.0 | Cts. 44.5 | Cts. 43.3 | Cts. 42.9 | Cts. 46.4 |
| Round steak | do | 22.3 | 43.6 | 43.3 | 43.0 | 43.1 | 43.0 | 42.7 | 41.1 | 39.4 | 39.7 | 39.3 | 38.1 | 37.7 | 41.2 |
| Rib roast | do | 19.8 | 36.3 | 36.0 | 35.9 | 35.9 | 35.6 | 35.1 | 34.0 | 32.3 | 33.0 | 32.5 | 31.8 | 31.6 | 34.2 |
| Chuck roast | do | 16.0 | 29.5 | 29.5 | 29.2 | 29.2 | 28.7 | 28.1 | 26.6 | 24.9 | 25.6 | 25.4 | 24.7 | 24.6 | 27.2 |
| Plate beef | do | 12.1 | 20.9 | 20.8 | 20.6 | 20.4 | 19.9 | 19.4 | 18.1 | 16.8 | 17.2 | 17.2 | 16.9 | 16.9 | 18.8 |
| Pork chops | do | 21.0 | 35.3 | 35.2 | 36.1 | 37.1 | 36.1 | 36.6 | 36.5 | 36.7 | 39.1 | 37.9 | 32.8 | 31.4 | 35.9 |
| Bacon, sliced | do | 27.0 | 42.4 | 42.6 | 42.6 | 42.5 | 42.3 | 42.3 | 42.3 | 42.0 | 42.7 | 42.6 | 42.1 | 41.3 | 42.3 |
| Ham, sliced | do | 26.9 | 53.6 | 54.0 | 54.1 | 53.9 | 54.0 | 54.0 | 53.8 | 53.3 | 53.5 | 53.1 | 52.1 | 51.5 | 53.4 |
| Lamb, leg of | do | 18.9 | 39.1 | 38.1 | 36.6 | 35.8 | 35.9 | 36.6 | 35.7 | 33.7 | 34.0 | 32.8 | 31.4 | 31.1 | 35.1 |
| Hens | do | 21.3 | 38.0 | 38.2 | 38.3 | 38.2 | 37.4 | 35.7 | 34.4 | 33.8 | 34.0 | 33.8 | 32.6 | 32.0 | 35.5 |
| Salmon, canned, red | do | | 31.9 | 31.9 | 31.9 | 31.8 | 31.8 | 31.8 | 31.9 | 32.6 | 33.5 | 34.0 | 34.3 | 34.3 | 32.6 |
| Milk, fresh | Quart | 8.9 | 14.2 | 14.1 | 14.0 | 14.0 | 14.0 | 14.0 | 14.0 | 14.0 | 14.0 | 14.0 | 14.0 | 13.5 | 14.0 |
| Milk, evaporated | (1) | | 10.4 | 10.3 | 10.3 | 10.3 | 10.2 | 10.1 | 10.0 | 10.0 | 10.0 | 9.9 | 9.9 | 9.9 | 10.1 |
| Butter | Pound | 38.3 | 46.7 | 47.0 | 46.7 | 48.1 | 46.3 | 43.3 | 43.7 | 47.4 | 48.7 | 47.8 | 45.4 | 42.5 | 46.1 |
| Oleomargarine (all butter substi- tutes) | do | | 26.4 | 26.2 | 26.1 | 26.0 | 25.8 | 25.6 | 25.7 | 25.4 | 25.1 | 25.0 | 24.6 | 24.5 | 25.5 |
| Cheese | do | 22.1 | 37.4 | 36.9 | 36.4 | 36.0 | 35.8 | 34.9 | 34.3 | 33.9 | 34.2 | 34.2 | 33.8 | 33.2 | 35.1 |
| Lard | do | 15.8 | 17.2 | 17.1 | 16.9 | 16.8 | 16.7 | 16.6 | 16.3 | 16.5 | 17.5 | 17.7 | 17.5 | 16.7 | 17.0 |
| Vegetable lard sub- stitutes | do | | 24.5 | 24.4 | 24.4 | 24.3 | 24.3 | 24.3 | 24.3 | 24.2 | 24.2 | 24.1 | 24.0 | 23.8 | 24.2 |
| Eggs, strictly fresh | Dozen | 34.5 | 55.4 | 47.2 | 35.3 | 34.5 | 33.7 | 33.6 | 35.1 | 38.8 | 43.1 | 44.8 | 48.4 | 41.6 | 41.0 |
| Bread | Pound | 5.6 | 8.9 | 8.8 | 8.8 | 8.8 | 8.8 | 8.8 | 8.8 | 8.7 | 8.7 | 8.6 | 8.5 | 8.5 | 8.7 |
| Flour | do | 3.3 | 5.1 | 5.1 | 5.0 | 4.9 | 4.8 | 4.8 | 4.6 | 4.5 | 4.4 | 4.3 | 4.2 | 4.1 | 4.7 |
| Corn meal | do | 3.0 | 5.4 | 5.3 | 5.3 | 5.3 | 5.3 | 5.3 | 5.3 | 5.3 | 5.3 | 5.3 | 5.2 | 5.2 | 5.3 |
| Rolled oats | do | | 8.8 | 8.8 | 8.7 | 8.7 | 8.7 | 8.7 | 8.7 | 8.7 | 8.7 | 8.6 | 8.6 | 8.6 | 8.7 |
| Corn flakes | (2) | | 9.4 | 9.4 | 9.4 | 9.4 | 9.4 | 9.4 | 9.4 | 9.4 | 9.4 | 9.3 | 9.3 | 9.3 | 9.4 |
| Wheat cereal | (3) | | 25.5 | 25.6 | 25.5 | 25.5 | 25.4 | 25.4 | 25.4 | 25.4 | 25.4 | 25.3 | 25.3 | 25.3 | 25.4 |
| Macaroni | Pound | | 19.6 | 19.5 | 19.5 | 19.5 | 19.5 | 19.4 | 19.3 | 19.2 | 19.2 | 19.1 | 18.9 | 18.6 | 19.3 |
| Rice | do | 8.7 | 9.6 | 9.6 | 9.5 | 9.6 | 9.5 | 9.5 | 9.5 | 9.5 | 9.6 | 9.5 | 9.3 | 9.2 | 9.5 |
| Beans, navy | do | | 12.7 | 12.3 | 12.1 | 11.8 | 11.6 | 11.5 | 11.5 | 11.5 | 11.7 | 11.3 | 10.2 | 9.7 | 11.5 |
| Potatoes | do | 1.7 | 3.9 | 3.9 | 3.9 | 4.1 | 4.3 | 4.2 | 3.3 | 3.1 | 3.2 | 3.1 | 2.9 | 2.9 | 3.6 |
| Onions | do | | 5.1 | 5.1 | 5.0 | 5.6 | 6.0 | 5.9 | 5.8 | 5.2 | 4.7 | 4.2 | 3.9 | 3.9 | 5.0 |
| Cabbage | do | | 5.1 | 6.7 | 8.5 | 9.8 | 7.3 | 5.6 | 4.4 | 4.3 | 3.9 | 3.6 | 3.4 | 3.7 | 5.5 |
| Pork and beans | (4) | | 11.4 | 11.3 | 11.2 | 11.1 | 11.0 | 11.0 | 11.0 | 10.9 | 10.9 | 10.8 | 10.7 | 10.7 | 11.0 |
| Corn, canned | (4) | | 15.6 | 15.5 | 15.4 | 15.4 | 15.4 | 15.4 | 15.3 | 15.3 | 15.3 | 15.2 | 15.1 | 14.9 | 15.3 |
| Peas, canned | (4) | | 16.5 | 16.5 | 16.4 | 16.4 | 16.3 | 16.3 | 16.2 | 16.1 | 16.1 | 16.0 | 15.9 | 15.7 | 16.2 |
| Tomatoes, canned | (4) | | 12.6 | 12.6 | 12.6 | 12.6 | 12.8 | 12.4 | 12.4 | 12.4 | 12.3 | 12.1 | 11.7 | 11.5 | 12.3 |
| Sugar, granulated | Pound | 5.5 | 6.6 | 6.5 | 6.4 | 6.3 | 6.3 | 6.1 | 6.1 | 6.1 | 5.9 | 5.8 | 5.9 | 5.9 | 6.2 |
| Tea | do | 54.4 | 78.0 | 77.9 | 77.7 | 77.5 | 77.5 | 77.6 | 77.6 | 77.4 | 77.3 | 77.2 | 76.9 | 76.9 | 77.5 |
| Coffee | do | 29.8 | 43.8 | 42.7 | 41.9 | 41.4 | 40.9 | 40.6 | 40.4 | 40.1 | 39.5 | 39.1 | 38.7 | 38.5 | 40.6 |
| Prunes | do | | 18.4 | 18.3 | 18.2 | 18.1 | 17.4 | 17.0 | 16.5 | 16.1 | 15.5 | 14.5 | 13.6 | 13.1 | 16.4 |
| Raisins | do | | 12.3 | 12.2 | 12.2 | 12.1 | 12.0 | 12.0 | 11.9 | 11.9 | 11.9 | 11.7 | 11.5 | 11.4 | 11.9 |
| Bananas | Dozen | | 32.1 | 31.3 | 31.4 | 30.6 | 30.6 | 31.0 | 30.6 | 29.9 | 29.7 | 29.4 | 29.3 | 29.0 | 30.4 |
| Oranges | do | | 46.7 | 49.4 | 52.1 | 60.9 | 66.7 | 67.2 | 64.0 | 63.7 | 63.3 | 66.8 | 51.1 | 35.7 | 57.3 |

¹ 16-ounce can.

² 8-ounce package.

³ 28-ounce package.

⁴ No. 2 can.

Table 4 shows the trend in the retail cost of three important groups of food commodities, viz, cereals, meats, and dairy products, by years, from 1913 to 1930, and by months for 1928, 1929, and 1930. The articles within these groups are as follows:

Cereals: Bread, flour, corn meal, rice, rolled oats, corn flakes, wheat cereal, and macaroni.

Meats: Sirloin steak, round steak, rib roast, chuck roast, plate beef, pork chops, bacon, ham, hens, and leg of lamb.

Dairy products: Butter, cheese, fresh milk, and evaporated milk.

TABLE 4.—INDEX NUMBERS OF RETAIL COST OF CEREALS, MEATS, AND DAIRY PRODUCTS FOR THE UNITED STATES, 1913 TO DECEMBER, 1930

[Average cost in 1913=100.0]

| Year and month | Cereals | Meats | Dairy products | Year and month | Cereals | Meats | Dairy products |
|------------------------|---------|-------|----------------|------------------------|---------|-------|----------------|
| 1913: Average for year | 100.0 | 100.0 | 100.0 | 1929: Average for year | 164.1 | 188.4 | 148.6 |
| 1914: Average for year | 106.7 | 103.4 | 97.1 | January | 164.1 | 180.9 | 151.9 |
| 1915: Average for year | 121.6 | 99.6 | 96.1 | February | 164.1 | 180.3 | 152.6 |
| 1916: Average for year | 126.8 | 108.2 | 103.2 | March | 164.1 | 182.8 | 152.4 |
| 1917: Average for year | 186.5 | 137.0 | 127.6 | April | 164.1 | 187.5 | 148.9 |
| 1918: Average for year | 194.3 | 172.8 | 153.4 | May | 163.5 | 191.2 | 147.5 |
| 1919: Average for year | 198.0 | 184.2 | 176.6 | June | 163.0 | 192.4 | 146.8 |
| 1920: Average for year | 232.1 | 185.7 | 185.1 | July | 163.5 | 195.9 | 146.8 |
| 1921: Average for year | 179.8 | 158.1 | 149.5 | August | 164.7 | 196.0 | 147.1 |
| 1922: Average for year | 159.3 | 150.3 | 135.9 | September | 165.2 | 194.2 | 148.1 |
| 1923: Average for year | 156.9 | 149.0 | 147.6 | October | 163.5 | 189.2 | 149.3 |
| 1924: Average for year | 160.4 | 150.2 | 142.8 | November | 163.6 | 184.1 | 147.0 |
| 1925: Average for year | 176.2 | 163.0 | 147.1 | December | 162.9 | 181.8 | 144.9 |
| 1926: Average for year | 175.5 | 171.3 | 145.5 | 1930: Average for year | 158.0 | 175.8 | 136.5 |
| 1927: Average for year | 170.7 | 169.9 | 148.7 | January | 162.9 | 183.6 | 138.9 |
| 1928: Average for year | 167.2 | 179.2 | 150.0 | February | 161.6 | 183.1 | 138.5 |
| January | 168.0 | 168.3 | 152.2 | March | 160.9 | 183.0 | 137.6 |
| February | 168.0 | 167.8 | 150.7 | April | 160.3 | 183.3 | 138.9 |
| March | 166.8 | 167.1 | 150.7 | May | 159.8 | 181.5 | 137.0 |
| April | 167.2 | 170.3 | 147.8 | June | 160.1 | 179.9 | 133.7 |
| May | 168.3 | 175.4 | 147.3 | July | 158.6 | 175.2 | 133.9 |
| June | 169.8 | 177.7 | 146.1 | August | 156.9 | 169.9 | 137.4 |
| July | 169.3 | 184.4 | 147.1 | September | 156.4 | 173.3 | 138.8 |
| August | 168.2 | 189.5 | 148.3 | October | 154.4 | 171.1 | 137.8 |
| September | 166.7 | 195.8 | 151.2 | November | 152.4 | 164.0 | 135.3 |
| October | 165.9 | 188.9 | 151.1 | December | 151.6 | 161.6 | 129.8 |
| November | 165.3 | 184.9 | 152.5 | | | | |
| December | 164.2 | 179.1 | 153.5 | | | | |

Index Numbers of Retail Prices of Food in the United States

IN TABLE 5 index numbers are given which show the changes in the retail prices of specified food articles, by years, for 1913 and 1920 to 1930,² by months for 1929 and 1930. These index numbers, or relative prices, are based on the year 1913 as 100, and are computed by dividing the average price of each commodity for each month and each year by the average price of that commodity for 1913. These figures must be used with caution. For example, the relative price of sirloin steak for the year 1930 was 182.7, which means that the average money price for the year 1929 was 82.7 per cent higher than the average money price for the year 1913. As compared with the relative price, 196.9 in 1929, the figures for 1930 show a decrease of 14.2 points, but an increase of 7.2 per cent in the year.

In the last column of Table 5 are given index numbers showing changes in the retail cost of all articles of food combined. Since January, 1921, these index numbers have been computed from the average prices of the articles of food shown in Tables 1 and 2, weighted according to the average family consumption in 1918. (See March, 1921, issue, p. 25.) Although previous to January, 1921, the number of food articles varied, these index numbers have been so computed as to be strictly comparable for the entire period. The index numbers based on the average for the year 1913 as 100.0 are 141.4 for November, 1930, and 137.2 for December, 1930.

² For index numbers of each month, January, 1913, to December, 1928, see Bulletin No. 396, pp. 44 to 61; and Bulletin No. 495, pp. 32 to 45.

The curve shown in the chart below pictures more readily to the eye the changes in the cost of the food budget than do the index numbers given in the table.

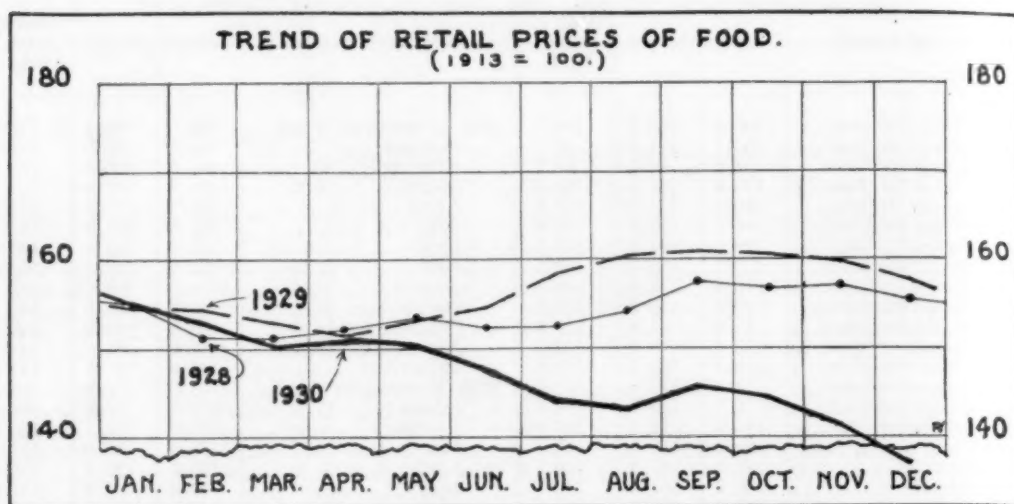


TABLE 5.—INDEX NUMBERS OF RETAIL PRICES OF PRINCIPAL ARTICLES OF FOOD BY YEARS, 1913, 1920 TO 1930, AND BY MONTHS FOR 1929 AND 1930

[Average for year 1913=100.0]

| Year and month | Sirloin steak | Round steak | Rib roast | Chuck roast | Plate beef | Pork chops | Bacon | Ham | Hens | Milk | Butter | Cheese |
|--------------------|---------------|-------------|-----------|-------------|------------|------------|-------|-------|-------|-------|--------|--------|
| 1913..... | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| 1920..... | 172.1 | 177.1 | 167.7 | 163.8 | 151.2 | 201.4 | 193.7 | 206.3 | 209.9 | 187.6 | 183.0 | 188.2 |
| 1921..... | 152.8 | 154.3 | 147.0 | 132.5 | 118.2 | 166.2 | 158.2 | 181.4 | 186.4 | 164.0 | 135.0 | 153.9 |
| 1922..... | 147.2 | 144.8 | 139.4 | 123.1 | 105.8 | 157.1 | 147.4 | 181.4 | 169.0 | 147.2 | 125.1 | 148.9 |
| 1923..... | 153.9 | 150.2 | 143.4 | 126.3 | 106.6 | 144.8 | 144.8 | 169.1 | 164.3 | 155.1 | 144.7 | 167.0 |
| 1924..... | 155.9 | 151.6 | 145.5 | 130.0 | 109.1 | 146.7 | 139.6 | 168.4 | 165.7 | 155.1 | 135.0 | 159.7 |
| 1925..... | 159.8 | 155.6 | 149.5 | 135.0 | 114.1 | 174.3 | 173.0 | 195.5 | 171.8 | 157.3 | 143.1 | 166.1 |
| 1926..... | 162.6 | 159.6 | 153.0 | 140.6 | 120.7 | 188.1 | 186.3 | 213.4 | 182.2 | 157.3 | 138.6 | 165.6 |
| 1927..... | 167.7 | 166.4 | 158.1 | 148.1 | 127.3 | 175.2 | 174.8 | 204.5 | 173.2 | 158.4 | 145.2 | 170.1 |
| 1928..... | 188.2 | 188.3 | 176.8 | 174.4 | 157.0 | 165.7 | 163.0 | 196.7 | 175.6 | 159.6 | 147.5 | 174.2 |
| 1929..... | 196.9 | 199.1 | 185.4 | 186.9 | 172.7 | 175.7 | 161.1 | 204.1 | 186.4 | 160.7 | 143.9 | 171.9 |
| 1930..... | 182.7 | 184.8 | 172.7 | 170.0 | 155.4 | 171.0 | 156.7 | 198.5 | 166.7 | 157.3 | 120.4 | 158.8 |
| 1929: January..... | 190.6 | 191.0 | 180.8 | 181.3 | 170.2 | 153.8 | 159.3 | 200.0 | 184.0 | 160.7 | 150.7 | 173.8 |
| February..... | 188.2 | 188.8 | 178.8 | 179.4 | 167.8 | 157.1 | 158.2 | 199.6 | 186.4 | 160.7 | 152.7 | 172.9 |
| March..... | 188.6 | 189.2 | 179.3 | 180.0 | 167.8 | 167.6 | 158.9 | 201.9 | 190.1 | 160.7 | 152.5 | 172.9 |
| April..... | 192.9 | 194.6 | 183.8 | 184.4 | 170.2 | 176.7 | 160.4 | 203.3 | 196.2 | 159.6 | 145.7 | 172.4 |
| May..... | 198.4 | 201.3 | 187.9 | 190.0 | 174.4 | 179.5 | 160.7 | 204.8 | 198.1 | 159.6 | 142.3 | 171.9 |
| June..... | 201.6 | 205.4 | 189.9 | 191.9 | 176.0 | 179.0 | 162.2 | 205.6 | 193.9 | 159.6 | 140.5 | 171.9 |
| July..... | 206.7 | 210.8 | 192.9 | 195.6 | 177.7 | 188.1 | 164.1 | 209.7 | 187.3 | 160.7 | 139.4 | 171.5 |
| August..... | 206.3 | 210.8 | 191.9 | 194.0 | 176.0 | 192.4 | 165.6 | 211.2 | 185.0 | 160.7 | 140.5 | 171.0 |
| September..... | 202.8 | 206.7 | 189.4 | 191.9 | 175.2 | 193.8 | 164.4 | 209.7 | 184.0 | 160.7 | 143.1 | 171.9 |
| October..... | 198.0 | 199.6 | 186.9 | 187.5 | 173.6 | 185.2 | 161.9 | 204.8 | 180.3 | 161.8 | 145.4 | 171.5 |
| November..... | 194.1 | 196.4 | 183.3 | 183.8 | 171.1 | 170.5 | 159.3 | 200.4 | 177.0 | 161.8 | 139.7 | 171.0 |
| December..... | 192.5 | 194.6 | 181.8 | 183.1 | 170.2 | 163.3 | 157.4 | 198.5 | 174.2 | 161.8 | 134.7 | 170.6 |
| 1930: January..... | 192.9 | 195.5 | 183.3 | 184.4 | 172.7 | 168.1 | 157.0 | 199.3 | 178.4 | 159.6 | 121.9 | 169.2 |
| February..... | 191.3 | 194.2 | 181.8 | 184.4 | 171.9 | 167.6 | 157.8 | 200.7 | 179.3 | 158.4 | 122.7 | 167.0 |
| March..... | 190.6 | 192.8 | 181.3 | 182.5 | 170.2 | 171.9 | 157.8 | 201.1 | 179.8 | 157.3 | 121.9 | 164.7 |
| April..... | 190.2 | 193.3 | 181.3 | 182.5 | 168.6 | 176.7 | 157.4 | 200.4 | 179.3 | 157.3 | 125.6 | 162.9 |
| May..... | 190.2 | 192.8 | 179.8 | 179.4 | 164.5 | 171.9 | 156.7 | 200.7 | 175.6 | 157.3 | 120.9 | 162.0 |
| June..... | 188.6 | 191.5 | 177.3 | 175.6 | 160.3 | 174.3 | 156.7 | 200.7 | 167.6 | 157.3 | 113.1 | 157.9 |
| July..... | 182.3 | 184.3 | 171.7 | 166.3 | 149.6 | 173.8 | 156.7 | 200.0 | 161.5 | 157.3 | 114.1 | 155.2 |
| August..... | 175.6 | 176.7 | 163.1 | 155.6 | 138.8 | 174.8 | 155.6 | 198.1 | 158.7 | 157.3 | 123.8 | 153.4 |
| September..... | 177.2 | 178.0 | 166.7 | 160.0 | 142.1 | 186.2 | 158.1 | 198.9 | 159.6 | 157.3 | 127.2 | 154.8 |
| October..... | 175.2 | 176.2 | 164.1 | 158.7 | 142.1 | 180.5 | 157.8 | 197.4 | 158.7 | 157.3 | 124.8 | 154.8 |
| November..... | 170.5 | 170.9 | 160.6 | 154.4 | 139.7 | 156.2 | 155.9 | 193.7 | 153.1 | 157.3 | 118.5 | 152.9 |
| December..... | 168.9 | 169.1 | 159.6 | 153.8 | 139.7 | 149.5 | 153.0 | 191.4 | 150.2 | 151.7 | 111.0 | 150.2 |

TABLE 5.—INDEX NUMBERS OF RETAIL PRICES OF PRINCIPAL ARTICLES OF FOOD BY YEARS, 1913, 1920 TO 1930, AND BY MONTHS FOR 1929 AND 1930—Continued

| Year and month | Lard | Eggs | Bread | Flour | Corn meal | Rice | Potatoes | Sugar | Tea | Coffee | All articles ¹ |
|--------------------|-------|-------|-------|-------|-----------|-------|----------|-------|-------|--------|---------------------------|
| 1913..... | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.9 | 100.0 | 100.0 |
| 1920..... | 186.7 | 197.4 | 205.4 | 245.5 | 216.7 | 200.0 | 370.6 | 352.7 | 134.7 | 157.7 | 203.4 |
| 1921..... | 113.9 | 147.5 | 176.8 | 175.8 | 150.0 | 109.2 | 182.4 | 145.5 | 128.1 | 121.8 | 153.3 |
| 1922..... | 107.6 | 128.7 | 155.4 | 154.5 | 130.0 | 109.2 | 164.7 | 132.7 | 125.2 | 121.1 | 141.6 |
| 1923..... | 112.0 | 134.8 | 155.4 | 142.4 | 136.7 | 109.2 | 170.6 | 183.6 | 127.8 | 126.5 | 146.2 |
| 1924..... | 120.3 | 138.6 | 157.1 | 148.5 | 156.7 | 116.1 | 158.8 | 167.3 | 131.4 | 145.3 | 145.9 |
| 1925..... | 147.5 | 151.0 | 167.9 | 184.8 | 180.0 | 127.6 | 211.8 | 130.9 | 138.8 | 172.8 | 157.4 |
| 1926..... | 138.6 | 140.6 | 167.9 | 181.8 | 170.0 | 133.3 | 288.2 | 125.5 | 141.0 | 171.1 | 160.6 |
| 1927..... | 122.2 | 131.0 | 166.1 | 166.7 | 173.3 | 123.0 | 223.5 | 132.7 | 142.5 | 162.1 | 155.4 |
| 1928..... | 117.7 | 134.5 | 162.5 | 163.6 | 176.7 | 114.9 | 158.8 | 129.1 | 142.3 | 165.1 | 154.3 |
| 1929..... | 115.8 | 142.0 | 160.7 | 154.5 | 176.7 | 111.5 | 188.2 | 120.0 | 142.6 | 164.8 | 156.7 |
| 1930..... | 107.6 | 118.8 | 155.4 | 142.4 | 176.7 | 109.2 | 211.8 | 112.7 | 142.5 | 136.2 | 147.1 |
| 1929: January..... | 117.1 | 146.7 | 160.7 | 154.5 | 176.7 | 112.6 | 135.3 | 121.8 | 142.5 | 166.1 | 154.6 |
| February..... | 116.5 | 142.3 | 160.7 | 154.5 | 176.7 | 112.6 | 135.3 | 120.0 | 142.6 | 166.1 | 154.4 |
| March..... | 116.5 | 122.0 | 160.7 | 154.5 | 176.7 | 112.6 | 135.3 | 118.2 | 142.6 | 166.4 | 153.0 |
| April..... | 117.1 | 106.4 | 160.7 | 154.5 | 176.7 | 112.6 | 135.3 | 116.4 | 142.6 | 166.4 | 151.6 |
| May..... | 116.5 | 112.2 | 160.7 | 151.5 | 176.7 | 111.5 | 158.8 | 116.4 | 142.6 | 166.1 | 153.3 |
| June..... | 115.8 | 120.0 | 160.7 | 148.5 | 176.7 | 111.5 | 182.4 | 116.4 | 142.5 | 165.8 | 154.8 |
| July..... | 115.8 | 127.8 | 160.7 | 151.5 | 176.7 | 111.5 | 229.4 | 116.4 | 142.3 | 165.8 | 158.5 |
| August..... | 116.5 | 140.0 | 160.7 | 157.6 | 176.7 | 112.6 | 235.3 | 120.0 | 142.5 | 165.4 | 160.2 |
| September..... | 117.1 | 153.6 | 160.7 | 160.6 | 176.7 | 111.5 | 229.4 | 121.8 | 142.6 | 165.1 | 160.8 |
| October..... | 115.8 | 168.1 | 158.9 | 157.6 | 176.7 | 111.5 | 223.5 | 121.8 | 142.6 | 164.8 | 160.5 |
| November..... | 113.9 | 183.5 | 158.9 | 157.6 | 176.7 | 111.5 | 223.5 | 121.8 | 142.3 | 162.1 | 159.7 |
| December..... | 111.4 | 182.0 | 158.9 | 154.5 | 180.0 | 110.3 | 223.5 | 120.0 | 142.8 | 155.4 | 158.0 |
| 1930: January..... | 108.9 | 160.6 | 158.9 | 154.5 | 180.0 | 110.3 | 229.4 | 120.0 | 143.4 | 147.0 | 155.4 |
| February..... | 108.2 | 136.8 | 157.1 | 154.5 | 176.7 | 110.3 | 229.4 | 118.2 | 143.2 | 143.3 | 153.0 |
| March..... | 107.0 | 102.3 | 157.1 | 151.5 | 176.7 | 109.2 | 229.4 | 116.4 | 142.8 | 140.6 | 150.1 |
| April..... | 106.3 | 100.0 | 157.1 | 148.5 | 176.7 | 110.3 | 241.2 | 114.5 | 142.5 | 138.9 | 151.2 |
| May..... | 105.7 | 97.7 | 157.1 | 145.5 | 176.7 | 109.2 | 252.9 | 114.5 | 142.5 | 137.2 | 150.1 |
| June..... | 105.1 | 97.4 | 157.1 | 145.5 | 176.7 | 109.2 | 247.1 | 110.9 | 143.0 | 136.2 | 147.9 |
| July..... | 103.2 | 101.7 | 157.1 | 139.4 | 176.7 | 109.2 | 194.1 | 110.9 | 142.6 | 135.6 | 144.0 |
| August..... | 104.4 | 112.5 | 155.4 | 136.4 | 176.7 | 109.2 | 182.4 | 110.9 | 142.3 | 134.6 | 143.7 |
| September..... | 110.8 | 124.9 | 155.4 | 133.3 | 176.7 | 110.3 | 188.2 | 107.3 | 142.1 | 132.6 | 145.6 |
| October..... | 112.0 | 129.9 | 153.6 | 130.3 | 176.7 | 109.2 | 182.4 | 105.5 | 141.9 | 131.2 | 144.4 |
| November..... | 110.8 | 140.3 | 151.8 | 127.3 | 173.3 | 106.9 | 170.6 | 107.3 | 141.4 | 129.9 | 141.4 |
| December..... | 105.7 | 120.6 | 151.8 | 124.2 | 173.3 | 105.8 | 170.6 | 107.3 | 141.4 | 129.2 | 137.2 |

¹ 22 Articles in 1913-1920; 42 articles in 1921-1930.

Table 6 shows by index numbers the trend in the retail cost of food in the United States from 1890 to 1930. The percentage decrease in the cost from 1929 to 1930 was 6.1, while the percentage increase from 1890 to 1930 was 111. This means that the cost of food in 1930 was about two and a tenth times as much as it was in 1890.

TABLE 6.—INDEX NUMBERS SHOWING THE TREND IN THE RETAIL COST OF FOOD IN THE UNITED STATES, BY YEARS, 1890 TO 1930¹

[Average for year 1913=100]

| Year | Relative price | Year | Relative price | Year | Relative price | Year | Relative price |
|-----------|----------------|-----------|----------------|-----------|----------------|-----------|----------------|
| 1890..... | 69.6 | 1901..... | 71.5 | 1912..... | 97.6 | 1923..... | 146.2 |
| 1891..... | 70.6 | 1902..... | 75.4 | 1913..... | 100.0 | 1924..... | 145.9 |
| 1892..... | 69.3 | 1903..... | 75.0 | 1914..... | 102.4 | 1925..... | 157.4 |
| 1893..... | 7.10 | 1904..... | 76.0 | 1915..... | 101.3 | 1926..... | 160.6 |
| 1894..... | 67.8 | 1905..... | 76.4 | 1916..... | 113.7 | 1927..... | 155.4 |
| 1895..... | 66.5 | 1906..... | 78.7 | 1917..... | 146.4 | 1928..... | 154.3 |
| 1896..... | 64.9 | 1907..... | 82.0 | 1918..... | 168.3 | 1929..... | 156.7 |
| 1897..... | 65.4 | 1908..... | 84.3 | 1919..... | 185.9 | 1930..... | 147.1 |
| 1898..... | 67.1 | 1909..... | 88.7 | 1920..... | 203.4 | | |
| 1899..... | 67.7 | 1910..... | 93.0 | 1921..... | 153.3 | | |
| 1900..... | 68.7 | 1911..... | 92.0 | 1922..... | 141.6 | | |

¹ The number of articles included in the index number for each year has not been the same throughout the period, but a sufficient number have been used fairly to represent food as a whole. From 1890 to 1907 30 articles were used; from 1907 to 1913, 15 articles; from 1913 to 1920, 22 articles; and from 1921, 43 articles. The relatives for the period have been so computed as to be comparable with each other.

Comparison of Retail Food Costs in 51 Cities

TABLE 7 shows for 39 cities the percentage of increase or decrease in the retail cost of food³ December, 1930, compared with the average cost in the year 1913, in December, 1929, and November, 1930. For 12 other cities comparisons are given for the 1-year and the 1-month periods; these cities have been scheduled by the bureau at different dates since 1913. The percentage changes are based on actual retail prices secured each month from retail dealers and on the average consumption of these articles in each city.⁴

Effort has been made by the bureau each month to have all schedules for each city included in the average prices. For the month of December, 99 per cent of all the firms supplying retail prices in the 51 cities sent in a report promptly. The following-named 39 cities had a perfect record; that is, every merchant who is cooperating with the bureau sent in his report in time for his prices to be included in the city averages:

Atlanta, Boston, Bridgeport, Buffalo, Butte, Charleston (S. C.), Chicago, Cincinnati, Cleveland, Denver, Detroit, Fall River, Houston, Indianapolis, Jacksonville, Little Rock, Los Angeles, Louisville, Manchester, Memphis, Minneapolis, Newark, New Haven, New Orleans, New York, Norfolk, Omaha, Peoria, Pittsburgh, Portland (Me.), Portland (Oreg.), Providence, Richmond, Rochester, St. Paul, San Francisco, Savannah, Scranton, and Springfield (Ill.).

TABLE 7.—PERCENTAGE CHANGE IN THE RETAIL COST OF FOOD IN DECEMBER, 1930, COMPARED WITH THE COST IN NOVEMBER, 1930, DECEMBER, 1929, AND WITH THE AVERAGE COST IN THE YEAR 1913, BY CITIES

| City | Percentage increase December, 1930, compared with 1913 | Percentage decrease December, 1930, compared with— | | City | Percentage increase December, 1930, compared with 1913 | Percentage decrease December, 1930, compared with— | |
|-----------------------|--|--|----------------|-----------------------|--|--|----------------|
| | | December, 1929 | November, 1930 | | | December, 1929 | November, 1930 |
| Atlanta..... | 37.3 | 13.1 | 2.9 | Minneapolis..... | 38.9 | 12.7 | 3.1 |
| Baltimore..... | 41.8 | 12.6 | 3.0 | Mobile..... | | 10.7 | 3.1 |
| Birmingham..... | 41.8 | 11.5 | 1.3 | Newark..... | 34.7 | 12.3 | 3.6 |
| Boston..... | 43.0 | 10.8 | 2.9 | New Haven..... | 45.4 | 10.1 | 1.5 |
| Bridgeport..... | | 12.7 | 3.6 | New Orleans..... | 36.8 | 13.4 | 1.8 |
| Buffalo..... | 40.3 | 14.0 | 4.2 | New York..... | 41.9 | 12.3 | 3.6 |
| Butte..... | | 14.8 | 0.9 | Norfolk..... | | 12.2 | 2.2 |
| Charleston, S. C..... | 42.2 | 11.4 | 2.3 | Omaha..... | 31.7 | 12.8 | 2.1 |
| Chicago..... | 49.4 | 12.9 | 2.0 | Peoria..... | | 12.9 | 2.3 |
| Cincinnati..... | 45.3 | 12.0 | 3.1 | Philadelphia..... | 40.4 | 13.9 | 3.5 |
| Cleveland..... | 32.6 | 11.9 | 3.3 | Pittsburgh..... | 36.7 | 14.4 | 3.4 |
| Columbus..... | | 12.3 | 3.5 | Portland, Me..... | | 11.6 | 3.7 |
| Dallas..... | 38.6 | 12.8 | 2.7 | Portland, Oreg..... | 19.1 | 18.0 | 4.1 |
| Denver..... | 21.9 | 14.1 | 3.5 | Providence..... | 39.4 | 12.9 | 4.2 |
| Detroit..... | 36.7 | 16.1 | 2.0 | Richmond..... | 42.6 | 11.9 | 2.6 |
| Fall River..... | 34.3 | 14.1 | 5.1 | Rochester..... | | 14.5 | 4.7 |
| Houston..... | | 14.5 | 2.2 | St. Louis..... | 37.9 | 14.4 | 3.0 |
| Indianapolis..... | 31.5 | 15.8 | 5.4 | St. Paul..... | | 13.2 | 2.4 |
| Jacksonville..... | 33.3 | 8.8 | 1.0 | Salt Lake City..... | 17.3 | 13.5 | 3.3 |
| Kansas City..... | 34.4 | 13.9 | 2.0 | San Francisco..... | 37.8 | 11.3 | 3.7 |
| Little Rock..... | 32.3 | 13.7 | 2.7 | Savannah..... | | 12.8 | 1.8 |
| Los Angeles..... | 23.6 | 14.1 | 3.7 | Scranton..... | 44.7 | 13.7 | 2.4 |
| Louisville..... | 31.1 | 15.2 | 3.7 | Seattle..... | 27.4 | 16.0 | 4.8 |
| Manchester..... | 34.4 | 12.2 | 4.4 | Springfield, Ill..... | | 12.9 | 4.1 |
| Memphis..... | 28.9 | 14.8 | 3.8 | Washington..... | 46.5 | 10.2 | 2.4 |
| Milwaukee..... | 38.1 | 13.7 | 3.5 | | | | |

³ For list of articles see note 2, p. 193.

⁴ The consumption figures used for January, 1913, to December, 1920, for each article in each city are given in the Labor Review for November, 1918, pp. 94 and 95. The consumption figures which have been used for each month beginning with January, 1921, are given in the Labor Review for March, 1921, p. 26.

Retail Prices of Coal in December, 1930¹

THE following table shows the average retail prices of coal on December 15, 1929, and November 15 and December 15, 1930, for the United States and for each of the cities from which retail food prices have been obtained. The prices quoted are for coal delivered to consumers, but do not include charges for storing the coal in cellar or coal bin where an extra handling is necessary.

In addition to the prices for Pennsylvania anthracite, prices are shown for Colorado, Arkansas, and New Mexico anthracite in those cities where these coals form any considerable portion of the sales for household use.

The prices shown for bituminous coal are averages of prices of the several kinds sold for household use.

TABLE 1.—AVERAGE RETAIL PRICES OF COAL PER TON OF 2,000 POUNDS, FOR HOUSEHOLD USE, ON DECEMBER 15, 1929, AND NOVEMBER 15 AND DECEMBER 15, 1930

| City, and kind of coal | 1929 | 1930 | | City, and kind of coal | 1929 | 1930 | |
|-----------------------------|---------|---------|---------|------------------------------|---------|---------|---------|
| | Dec. 15 | Nov. 15 | Dec. 15 | | Dec. 15 | Nov. 15 | Dec. 15 |
| United States: | | | | Cincinnati, Ohio: | | | |
| Pennsylvania anthracite— | | | | Bituminous— | | | |
| Stove— | | | | Prepared sizes— | | | |
| Average price..... | \$15.34 | \$15.14 | \$15.13 | High volatile..... | \$6.30 | \$6.30 | \$6.30 |
| Index (1913=100)..... | 198.5 | 196.0 | 195.9 | Low volatile..... | 8.78 | 8.53 | 8.53 |
| Chestnut— | | | | Cleveland, Ohio: | | | |
| Average price..... | \$15.00 | \$14.90 | \$14.89 | Pennsylvania anthracite— | | | |
| Index (1913=100)..... | 189.6 | 188.2 | 188.1 | Stove..... | 15.24 | 14.56 | 14.50 |
| Bituminous— | | | | Chestnut..... | 14.80 | 14.31 | 14.31 |
| Average price..... | \$9.05 | \$8.94 | \$8.94 | Bituminous— | | | |
| Index (1913=100)..... | 166.5 | 164.6 | 164.4 | Prepared sizes— | | | |
| Atlanta, Ga.: | | | | High volatile..... | 7.10 | 6.81 | 6.89 |
| Bituminous, prepared sizes. | \$7.79 | \$7.60 | \$7.59 | Low volatile..... | 9.97 | 9.86 | 9.93 |
| Baltimore, Md.: | | | | Columbus, Ohio: | | | |
| Pennsylvania anthracite— | | | | Bituminous— | | | |
| Stove..... | 14.25 | 14.25 | 14.25 | Prepared sizes— | | | |
| Chestnut..... | 13.75 | 13.75 | 13.75 | High volatile..... | 5.95 | 6.13 | 6.23 |
| Bituminous, run of mine— | | | | Low volatile..... | 8.31 | 8.13 | 8.38 |
| High volatile..... | 7.96 | 7.96 | 7.82 | Dallas, Tex.: | | | |
| Birmingham, Ala.: | | | | Arkansas anthracite—Egg..... | 15.50 | 15.00 | 15.00 |
| Bituminous, prepared sizes. | 7.64 | 7.45 | 7.42 | Bituminous, prepared sizes. | 12.92 | 12.58 | 12.58 |
| Boston, Mass.: | | | | Denver, Colo.: | | | |
| Pennsylvania anthracite— | | | | Colorado anthracite— | | | |
| Stove..... | 16.00 | 16.25 | 16.25 | Furnace, 1 and 2 mixed..... | 14.75 | 15.25 | 15.25 |
| Chestnut..... | 15.50 | 15.75 | 15.75 | Stove, 3 and 5 mixed..... | 14.75 | 15.25 | 15.25 |
| Bridgeport, Conn.: | | | | Bituminous, prepared sizes. | 10.45 | 10.27 | 10.27 |
| Pennsylvania anthracite— | | | | Detroit, Mich.: | | | |
| Stove..... | 15.50 | 14.75 | 14.75 | Pennsylvania anthracite— | | | |
| Chestnut..... | 15.50 | 14.75 | 14.75 | Stove..... | 16.00 | 15.00 | 15.00 |
| Buffalo, N. Y.: | | | | Chestnut..... | 15.50 | 15.00 | 15.00 |
| Pennsylvania anthracite— | | | | Bituminous— | | | |
| Stove..... | 13.77 | 13.81 | 13.81 | Prepared sizes— | | | |
| Chestnut..... | 13.32 | 13.31 | 13.31 | High volatile..... | 8.39 | 7.96 | 7.82 |
| Butte, Mont.: | | | | Low volatile..... | 10.34 | 9.96 | 9.92 |
| Bituminous, prepared sizes. | 11.17 | 10.71 | 10.70 | Run of mine— | | | |
| Charleston, S. C.: | | | | Low volatile..... | 8.00 | 7.92 | 7.92 |
| Bituminous, prepared sizes. | 9.67 | 9.67 | 9.67 | Fall River, Mass.: | | | |
| Chicago, Ill.: | | | | Pennsylvania anthracite— | | | |
| Pennsylvania anthracite— | | | | Stove..... | 16.50 | 16.50 | 16.50 |
| Stove..... | 16.85 | 16.38 | 16.40 | Chestnut..... | 16.25 | 16.25 | 16.25 |
| Chestnut..... | 16.40 | 16.28 | 16.30 | Houston, Tex.: | | | |
| Bituminous— | | | | Bituminous, prepared sizes. | 13.20 | 12.00 | 12.40 |
| Prepared sizes— | | | | Indianapolis, Ind.: | | | |
| High volatile..... | 8.47 | 8.09 | 8.09 | Bituminous— | | | |
| Low volatile..... | 12.35 | 11.96 | 11.96 | Prepared sizes— | | | |
| Run of mine— | | | | High volatile..... | 6.15 | 5.98 | 5.98 |
| Low volatile..... | 8.25 | 8.00 | 8.00 | Low volatile..... | 9.00 | 9.13 | 9.21 |
| | | | | Run of mine— | | | |
| | | | | Low volatile..... | 7.17 | 7.05 | 7.10 |

¹ Prices of coal were formerly secured semiannually and published in the March and September issues of the Labor Review. Since June, 1920, these prices have been secured and published monthly.

TABLE 1.—AVERAGE RETAIL PRICES OF COAL PER TON OF 2,000 POUNDS FOR HOUSEHOLD USE, ON DECEMBER 15, 1929, AND NOVEMBER 15 AND DECEMBER 15, 1930—Continued

| City, and kind of coal | 1929 | 1930 | | City, and kind of coal | 1929 | 1930 | |
|---|--------------------|---------|---------|---|--------------------|--------------------|--------------------|
| | Dec. 15 | Nov. 15 | Dec. 15 | | Dec. 15 | Nov. 15 | Dec. 15 |
| Jacksonville, Fla.: Bituminous, prepared sizes | \$14.00 | \$10.75 | \$10.75 | Pittsburgh, Pa.: Pennsylvania anthracite— Chestnut | \$15.00 | \$14.50 | \$14.50 |
| Kansas City, Mo.: Arkansas anthracite— Furnace | 12.55 | 12.44 | 12.44 | Bituminous, prepared sizes | 5.29 | 5.00 | 4.93 |
| Stove No. 4 | 13.58 | 13.50 | 13.50 | Portland, Me.: Pennsylvania anthracite— Stove | 16.80 | 16.80 | 16.80 |
| Bituminous, prepared sizes | 7.10 | 6.86 | 6.84 | Chestnut | 16.80 | 16.80 | 16.80 |
| Little Rock, Ark.: Arkansas anthracite—Egg | 13.50 | 13.00 | 13.50 | Portland, Oreg.: Bituminous, prepared sizes | 13.49 | 13.18 | 13.29 |
| Bituminous, prepared sizes | 10.10 | 10.05 | 10.10 | Providence, R. I.: Pennsylvania anthracite— Stove | ² 16.00 | ² 16.00 | ² 16.00 |
| Los Angeles, Calif.: Bituminous, prepared sizes | 16.50 | 16.50 | 16.50 | Chestnut | ² 16.00 | ² 16.00 | ² 16.00 |
| Louisville, Ky.: Bituminous— Prepared sizes— High volatile | 7.08 | 6.27 | 6.27 | Richmond, Va.: Pennsylvania anthracite— Stove | 15.00 | 15.00 | 15.00 |
| Low volatile | 9.50 | 8.75 | 8.75 | Chestnut | 15.00 | 15.00 | 15.00 |
| Manchester, N. H.: Pennsylvania anthracite— Stove | 17.00 | 16.83 | 16.83 | Richmond, Va.—Continued. Bituminous— Prepared sizes— High volatile | 8.38 | 8.75 | 8.75 |
| Chestnut | 17.00 | 16.83 | 16.83 | Low volatile | 9.14 | 9.87 | 9.87 |
| Memphis, Tenn.: Bituminous, prepared sizes | 7.39 | 7.85 | 7.76 | Run of mine— Low volatile | 7.25 | 7.50 | 7.50 |
| Milwaukee, Wis.: Pennsylvania anthracite— Stove | 16.30 | 15.75 | 15.75 | Rochester, N. Y.: Pennsylvania anthracite— Stove | 14.75 | 14.75 | 14.75 |
| Chestnut | 15.85 | 15.50 | 15.50 | Chestnut | 14.25 | 14.25 | 14.25 |
| Bituminous— Prepared sizes— High volatile | 7.68 | 7.68 | 7.68 | St. Louis, Mo.: Pennsylvania anthracite— Stove | 16.70 | 16.20 | 16.23 |
| Low volatile | 11.01 | 10.68 | 10.66 | Chestnut | 16.45 | 15.95 | 15.98 |
| Minneapolis, Minn.: Pennsylvania anthracite— Stove | 18.30 | 17.05 | 16.90 | Bituminous, prepared sizes | 6.75 | 6.36 | 6.36 |
| Chestnut | 17.85 | 17.05 | 16.90 | St. Paul, Minn.: Pennsylvania anthracite— Stove | 18.30 | 16.90 | 16.90 |
| Bituminous— Prepared sizes— High volatile | 10.56 | 10.01 | 9.67 | Chestnut | 17.85 | 16.90 | 16.90 |
| Low volatile | 13.65 | 12.63 | 12.63 | Bituminous— Prepared sizes— High volatile | 10.27 | 9.58 | 9.58 |
| Mobile, Ala.: Bituminous, prepared sizes | 9.63 | 9.60 | 9.40 | Low volatile | 13.65 | 12.65 | 12.65 |
| Newark, N. J.: Pennsylvania anthracite— Stove | 13.96 | 13.90 | 13.90 | Salt Lake City, Utah: Bituminous, prepared sizes | 8.38 | 8.49 | 8.48 |
| Chestnut | 13.46 | 13.40 | 13.40 | San Francisco, Calif.: New Mexico anthracite— Cerillos egg | 26.00 | 26.00 | 26.00 |
| New Haven, Conn.: Pennsylvania anthracite— Stove | 15.25 | 14.90 | 14.90 | Colorado anthracite— Egg | 25.50 | 25.50 | 25.50 |
| Chestnut | 15.25 | 14.90 | 14.90 | Bituminous, prepared sizes | 17.13 | 17.00 | 17.00 |
| New Orleans, La.: Bituminous, prepared sizes | 10.96 | 10.93 | 10.93 | Savannah, Ga.: Bituminous, prepared sizes | ³ 10.24 | ³ 10.53 | ³ 10.45 |
| New York, N. Y.: Pennsylvania anthracite— Stove | 14.58 | 14.17 | 14.17 | Scranton, Pa.: Pennsylvania anthracite— Stove | 10.28 | 10.18 | 10.18 |
| Chestnut | 14.08 | 13.67 | 13.67 | Chestnut | 9.92 | 9.88 | 9.88 |
| Norfolk, Va.: Pennsylvania anthracite— Stove | 14.00 | 15.00 | 15.00 | Seattle, Wash.: Bituminous, prepared sizes | 10.68 | 10.68 | 10.79 |
| Chestnut | 14.00 | 15.00 | 15.00 | Springfield, Ill.: Bituminous, prepared sizes | 4.34 | 4.34 | 4.34 |
| Bituminous— Prepared sizes— High volatile | 7.25 | 7.38 | 7.38 | Washington, D. C.: Pennsylvania anthracite— Stove | ¹ 15.73 | ¹ 15.73 | ¹ 15.73 |
| Low volatile | 9.00 | 10.00 | 10.00 | Chestnut | ¹ 15.23 | ¹ 15.23 | ¹ 15.23 |
| Run of mine— Low volatile | 6.67 | 7.00 | 7.00 | Bituminous— Prepared sizes— High volatile | ¹ 8.63 | ¹ 8.63 | ¹ 8.63 |
| Omaha, Nebr.: Bituminous, prepared sizes | 9.69 | 9.68 | 9.68 | Low volatile | ¹ 11.42 | ¹ 11.43 | ¹ 11.43 |
| Peoria, Ill.: Bituminous, prepared sizes | 6.75 | 6.39 | 6.53 | Run of mine— Mixed | ¹ 7.72 | ¹ 7.81 | ¹ 7.81 |
| Philadelphia, Pa.: Pennsylvania anthracite— Stove | ¹ 15.00 | 14.00 | 14.00 | | | | |
| Chestnut | ¹ 14.50 | 13.50 | 13.50 | | | | |

¹ Per ton of 2,240 pounds.

² The average price of coal delivered in bin is 50 cents higher than here shown. Practically all coal is delivered in bin.

³ All coal sold in Savannah is weighed by the city. A charge of 10 cents per ton or half ton is made. This additional charge has been included in the above price.

The following table shows for the United States both average and relative retail prices of Pennsylvania white-ash anthracite coal, stove and chestnut sizes, and of bituminous coal in January and July, 1913 to 1928, and for each month of 1929 and 1930. An average price for the year 1913 has been made from the averages for January and July of that year. The average price for each month has been divided by this average price for the year 1913 to obtain the relative price.

TABLE 2.—AVERAGE AND RELATIVE PRICES OF COAL FOR THE UNITED STATES ON SPECIFIED DATES FROM JANUARY, 1913, TO DECEMBER, 1930

| Year and month | Pennsylvania anthracite, white ash— | | | | Bituminous | |
|------------------------|-------------------------------------|----------------|---------------|----------------|---------------|----------------|
| | Stove | | Chestnut | | Average price | Relative price |
| | Average price | Relative price | Average price | Relative price | | |
| 1913: Average for year | \$7.73 | 100.0 | \$7.91 | 100.0 | \$5.43 | 100.0 |
| January | 7.99 | 103.4 | 8.15 | 103.0 | 5.48 | 100.8 |
| July | 7.46 | 96.6 | 7.68 | 97.0 | 5.39 | 99.2 |
| 1914: January | 7.80 | 100.9 | 8.00 | 101.0 | 5.97 | 109.9 |
| July | 7.60 | 98.3 | 7.78 | 98.3 | 5.46 | 100.6 |
| 1915: January | 7.83 | 101.4 | 7.99 | 101.0 | 5.71 | 105.2 |
| July | 7.54 | 97.6 | 7.73 | 97.7 | 5.44 | 100.1 |
| 1916: January | 7.93 | 102.7 | 8.13 | 102.7 | 5.69 | 104.8 |
| July | 8.12 | 105.2 | 8.28 | 104.6 | 5.52 | 101.6 |
| 1917: January | 9.29 | 120.2 | 9.40 | 118.8 | 6.96 | 128.1 |
| July | 9.08 | 117.5 | 9.16 | 115.7 | 7.21 | 132.7 |
| 1918: January | 9.88 | 127.9 | 10.03 | 126.7 | 7.68 | 141.3 |
| July | 9.96 | 128.9 | 10.07 | 127.3 | 7.92 | 145.8 |
| 1919: January | 11.51 | 149.0 | 11.61 | 146.7 | 7.90 | 145.3 |
| July | 12.14 | 157.2 | 12.17 | 153.8 | 8.10 | 149.1 |
| 1920: January | 12.59 | 162.9 | 12.77 | 161.3 | 8.81 | 162.1 |
| July | 14.28 | 184.9 | 14.33 | 181.1 | 10.55 | 194.1 |
| 1921: January | 15.99 | 207.0 | 16.13 | 203.8 | 11.82 | 217.6 |
| July | 14.90 | 192.8 | 14.95 | 188.9 | 10.47 | 192.7 |
| 1922: January | 14.98 | 193.9 | 15.02 | 189.8 | 9.89 | 182.0 |
| July | 14.87 | 192.4 | 14.92 | 188.5 | 9.49 | 174.6 |
| 1923: January | 15.43 | 199.7 | 15.46 | 195.3 | 11.18 | 205.7 |
| July | 15.10 | 195.5 | 15.05 | 190.1 | 10.04 | 184.7 |
| 1924: January | 15.77 | 204.1 | 15.76 | 199.1 | 9.75 | 179.5 |
| July | 15.24 | 197.2 | 15.10 | 190.7 | 8.94 | 164.5 |
| 1925: January | 15.45 | 200.0 | 15.37 | 194.2 | 9.24 | 170.0 |
| July | 15.14 | 196.0 | 14.93 | 188.6 | 8.61 | 158.5 |
| 1926: January | (1) | (1) | (1) | (1) | 9.74 | 179.3 |
| July | 15.43 | 199.7 | 15.19 | 191.9 | 8.70 | 160.1 |
| 1927: January | 15.66 | 202.7 | 15.42 | 194.8 | 9.96 | 183.3 |
| July | 15.15 | 196.1 | 14.81 | 187.1 | 8.91 | 163.9 |
| 1928: January | 15.44 | 199.8 | 15.08 | 190.6 | 9.30 | 171.1 |
| July | 14.91 | 192.9 | 14.63 | 184.9 | 8.69 | 159.9 |
| 1929: January | 15.38 | 199.1 | 15.06 | 190.3 | 9.09 | 167.2 |
| February | 15.40 | 199.3 | 15.07 | 190.4 | 9.07 | 166.9 |
| March | 15.39 | 199.2 | 15.07 | 190.4 | 9.06 | 166.7 |
| April | 15.04 | 194.6 | 14.71 | 185.8 | 8.76 | 161.3 |
| May | 14.74 | 190.7 | 14.40 | 182.0 | 8.52 | 156.8 |
| June | 14.82 | 191.8 | 14.48 | 183.0 | 8.50 | 156.5 |
| July | 14.94 | 193.4 | 14.63 | 184.8 | 8.62 | 158.6 |
| August | 15.01 | 194.3 | 14.67 | 185.4 | 8.69 | 159.9 |
| September | 15.21 | 196.8 | 14.87 | 187.9 | 8.87 | 163.2 |
| October | 15.31 | 198.2 | 14.98 | 189.3 | 8.98 | 165.3 |
| November | 15.31 | 198.2 | 14.98 | 189.3 | 9.00 | 165.6 |
| December | 15.34 | 198.5 | 15.00 | 189.6 | 9.05 | 166.5 |
| 1930: January | 15.33 | 198.4 | 15.00 | 189.5 | 9.11 | 167.6 |
| February | 15.33 | 198.4 | 15.00 | 189.6 | 9.04 | 166.4 |
| March | 15.33 | 198.4 | 15.00 | 189.6 | 9.02 | 166.0 |
| April | 15.32 | 198.3 | 14.99 | 189.4 | 8.84 | 162.7 |
| May | 14.65 | 189.6 | 14.33 | 181.0 | 8.53 | 157.0 |
| June | 14.62 | 189.3 | 14.32 | 180.9 | 8.54 | 157.2 |
| July | 14.84 | 192.1 | 14.53 | 183.6 | 8.65 | 159.1 |
| August | 14.88 | 192.6 | 14.57 | 184.1 | 8.70 | 160.1 |
| September | 15.08 | 195.2 | 14.80 | 187.0 | 8.79 | 161.7 |
| October | 15.13 | 195.8 | 14.87 | 187.9 | 8.88 | 163.3 |
| November | 15.14 | 196.0 | 14.90 | 188.2 | 8.94 | 164.6 |
| December | 15.13 | 195.9 | 14.89 | 188.1 | 8.94 | 164.4 |

¹ Insufficient data.

Retail Prices of Gas in the United States

THE net price per 1,000 cubic feet of gas for household use in each of 51 cities is shown in the following table. In Table 1 the average family consumption of manufactured gas is assumed to be 3,000 cubic feet per month. In cities where a service charge or a sliding scale is in operation, families using less than 3,000 cubic feet per month pay a somewhat higher rate than here shown, while those consuming more than this amount pay a lower rate. The figures here given are believed to represent quite closely the actual monthly cost of gas per 1,000 cubic feet to the average wage-earner's family. Prices for natural gas and for manufactured and natural mixed gas are shown in Table 2 for those cities where it is in general use. These prices are based on an estimated average family consumption of 5,000 cubic feet per month.

TABLE 1.—NET PRICE PER 1,000 CUBIC FEET OF MANUFACTURED GAS BASED ON A FAMILY CONSUMPTION OF 3,000 CUBIC FEET, IN SPECIFIED MONTHS FROM APRIL, 1913, TO DECEMBER, 1930, BY CITIES

| City | Apr. 15, 1913 | June 15, 1924 | June 15, 1925 | June 15, 1926 | June 15, 1927 | June 15, 1928 | Dec. 15, 1928 | June 15, 1929 | Dec. 15, 1929 | June 15, 1930 | Dec. 15, 1930 |
|-------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|
| Atlanta | \$1.00 | \$1.55 | \$1.55 | \$1.55 | \$1.55 | \$1.55 | \$1.55 | \$1.43 | \$1.43 | | |
| Baltimore | .90 | .85 | .85 | .85 | .85 | .85 | .85 | .85 | .85 | \$0.85 | \$0.85 |
| Birmingham | 1.00 | .80 | .80 | .80 | .80 | .80 | .80 | .80 | .80 | .80 | .80 |
| Boston | .81 | 1.20 | 1.18 | 1.18 | 1.18 | 1.18 | 1.18 | 1.18 | 1.16 | 1.16 | 1.16 |
| Butte | 1.49 | 2.10 | 2.10 | 2.10 | 2.10 | 2.10 | 2.10 | 2.10 | 2.10 | 2.10 | 2.10 |
| Charleston, S. C. | 1.10 | 1.55 | 1.55 | 1.55 | 1.55 | 1.55 | 1.55 | 1.55 | 1.55 | 1.55 | 1.55 |
| Chicago | .80 | 1.02 | 1.02 | 1.02 | 1.02 | .98 | .98 | .98 | .98 | .98 | 1.98 |
| Cleveland | .80 | 1.25 | 1.25 | 1.25 | 1.25 | 1.25 | 1.25 | 1.25 | 1.25 | 1.25 | 1.25 |
| Denver | .85 | .95 | .95 | .95 | .95 | .90 | .90 | | | | |
| Detroit | .75 | .82 | .82 | .79 | .79 | .79 | .79 | .79 | .79 | .79 | .79 |
| Fall River | .80 | 1.15 | 1.15 | 1.15 | 1.15 | 1.15 | 1.15 | 1.15 | 1.14 | 1.14 | 1.14 |
| Houston | 1.00 | 1.09 | 1.05 | | | | | | | | |
| Indianapolis | .60 | 1.15 | 1.10 | 1.05 | 1.05 | .95 | .95 | .95 | .95 | .95 | .95 |
| Jacksonville | 1.20 | 1.97 | 1.97 | 1.97 | 1.92 | 1.92 | 1.92 | 1.92 | 1.92 | 1.92 | 1.92 |
| Manchester | 1.10 | 1.38 | 1.38 | 1.38 | 1.38 | 1.34 | 1.34 | 1.34 | 1.34 | 1.34 | 1.34 |
| Memphis | 1.00 | 1.20 | 1.20 | 1.20 | 1.20 | 1.20 | 1.20 | | | | |
| Milwaukee | .75 | .82 | .82 | .82 | .82 | .82 | .82 | .82 | .82 | .82 | .82 |
| Minneapolis | .85 | 1.01 | .95 | .97 | .96 | .94 | .90 | .89 | .89 | 1.05 | .96 |
| Mobile | 1.10 | 1.80 | 1.80 | 1.80 | 1.76 | 1.76 | 1.76 | 1.76 | 1.76 | 1.76 | |
| Newark | 1.00 | 1.20 | 1.20 | 1.20 | 1.20 | 1.20 | 1.20 | 1.20 | 1.21 | 1.21 | 1.21 |
| New Haven | .90 | 1.18 | 1.13 | 1.13 | 1.13 | 1.13 | 1.13 | 1.13 | 1.13 | 1.13 | 1.13 |
| New Orleans | 1.10 | 1.30 | 1.30 | 1.30 | 1.30 | 1.30 | | | | | |
| New York | .84 | 1.23 | 1.23 | 1.23 | 1.24 | 1.25 | 1.25 | 1.25 | 1.24 | 1.24 | 1.24 |
| Norfolk | 1.00 | 1.40 | 1.40 | 1.33 | 1.33 | 1.33 | 1.33 | 1.33 | 1.32 | 1.32 | 1.32 |
| Omaha | 1.15 | 1.18 | 1.08 | 1.08 | 1.08 | 1.00 | 1.00 | .95 | .95 | .95 | .88 |
| Peoria | .90 | 1.20 | 1.20 | 1.20 | 1.20 | 1.20 | 1.20 | 1.20 | 1.20 | 1.20 | 1.20 |
| Philadelphia | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Portland, Me. | 1.10 | 1.55 | 1.55 | 1.50 | 1.42 | 1.42 | 1.42 | 1.42 | 1.42 | 1.42 | 1.42 |
| Portland, Oreg. | .95 | 1.16 | 1.16 | 1.19 | 1.17 | 1.17 | 1.17 | 1.17 | 1.17 | 1.17 | 1.17 |
| Providence | .85 | 1.22 | 1.17 | 1.17 | 1.13 | 1.13 | 1.13 | 1.13 | 1.13 | 1.13 | 1.13 |
| Richmond | .90 | 1.30 | 1.30 | 1.29 | 1.29 | 1.29 | 1.29 | 1.29 | 1.29 | 1.29 | 1.29 |
| Rochester | .95 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| St. Louis | .80 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.11 | 1.11 | 1.11 | 1.11 |
| St. Paul | .95 | .85 | .85 | .90 | .90 | .90 | .60 | .90 | .90 | .90 | .90 |
| Salt Lake City | .87 | 1.57 | 1.54 | 1.53 | 1.52 | 1.51 | 1.51 | 1.51 | | | |
| San Francisco | .75 | 1.00 | 1.05 | .95 | .95 | .94 | .94 | .90 | .90 | | |
| Savannah | | 1.45 | 1.45 | 1.45 | 1.45 | 1.45 | 1.45 | 1.45 | 1.45 | 1.45 | 1.45 |
| Scranton | .95 | 1.50 | 1.50 | 1.50 | 1.40 | 1.40 | 1.40 | 1.40 | 1.40 | 1.40 | 1.40 |
| Seattle | 1.00 | 1.45 | 1.45 | 1.45 | 1.45 | 1.45 | 1.45 | 1.45 | 1.45 | 1.43 | 1.43 |
| Springfield, Ill. | 1.00 | 1.35 | 1.35 | 1.25 | 1.25 | 1.25 | 1.25 | 1.25 | 1.25 | 1.25 | 1.25 |
| Washington, D. C. | .93 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | .95 |
| Honolulu, Hawaii | | | | | | | | 1.77 | 1.77 | 1.77 | 1.77 |

¹ Price is based on 15.9 therms, which is the equivalent of 3,000 cubic feet of gas of a heating value 530 British thermal units.

TABLE 2.—NET PRICE PER 1,000 CUBIC FEET OF GAS BASED ON A FAMILY CONSUMPTION OF 5,000 CUBIC FEET, IN SPECIFIED MONTHS FROM APRIL, 1913, TO DECEMBER, 1930, BY CITIES

Natural gas

| City | Apr. 15, 1913 | June 15, 1924 | June 15, 1925 | June 15, 1926 | June 15, 1927 | June 15, 1928 | Dec. 15, 1928 | June 15, 1929 | Dec. 15, 1929 | June 15, 1930 | Dec. 15, 1930 |
|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|
| Atlanta..... | | | | | | | | | | \$1.17 | \$1.09 |
| Buffalo..... | \$0.30 | | | | | | | | | | |
| Cincinnati..... | .30 | \$0.50 | \$0.75 | \$0.75 | \$0.75 | \$0.75 | \$0.75 | \$0.75 | \$0.75 | .75 | .75 |
| Cleveland..... | .30 | .55 | .55 | .60 | .60 | .60 | .60 | .60 | .60 | .60 | .60 |
| Columbus..... | .30 | .45 | .55 | .55 | .48 | .48 | .48 | .48 | .48 | .48 | .48 |
| Dallas..... | .45 | .68 | .74 | .74 | .79 | .79 | .79 | .79 | .79 | .79 | .79 |
| Denver..... | | | | | | | .99 | .99 | .99 | .99 | .99 |
| Houston..... | | | | .75 | .75 | .75 | .75 | .75 | .75 | .75 | .75 |
| Kansas City..... | .27 | .95 | .95 | .95 | .95 | .95 | .95 | .95 | .95 | .95 | .95 |
| Little Rock..... | .40 | .65 | .65 | .65 | .65 | .65 | .65 | .65 | .65 | .65 | .65 |
| Los Angeles..... | | | | | .91 | .91 | .84 | .84 | .84 | .84 | .84 |
| Louisville..... | | .45 | .45 | .45 | .45 | .45 | .45 | .45 | .45 | .45 | .45 |
| Memphis..... | | | | | | | | .97 | .95 | .95 | .95 |
| Mobile..... | | | | | | | | | | | 1.24 |
| New Orleans..... | | | | | | | .95 | .95 | .95 | .95 | .95 |
| Pittsburgh..... | .28 | .53 | .60 | .60 | .60 | .60 | .60 | .60 | .60 | .60 | .60 |
| Salt Lake City..... | | | | | | | | | .99 | .99 | .99 |
| San Francisco..... | | | | | | | | | | .97 | .97 |

Manufactured and natural gas mixed

| | | | | | | | | | | | |
|------------------|--|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| Buffalo..... | | \$0.60 | \$0.60 | \$0.65 | \$0.65 | \$0.65 | \$0.65 | \$0.65 | \$0.65 | \$0.65 | \$0.65 |
| Los Angeles..... | | .68 | .68 | .68 | | | | | | | |

From the prices quoted on manufactured gas, average prices have been computed for all of the cities combined and are shown in the next table for specified months of each year from 1913 to 1930. These prices are based on an estimated average family consumption of 3,000 cubic feet.

Relative prices have been computed by dividing the price in each year by the price in April, 1913.

The price of manufactured gas in December, 1930, showed an increase of 24.2 per cent since April, 1913. From June, 1930, to December, 1930, there was a decrease of 2.5 per cent.

TABLE 3.—AVERAGE AND RELATIVE NET PRICE PER 1,000 CUBIC FEET OF MANUFACTURED GAS IN UNITED STATES, BASED ON A FAMILY CONSUMPTION OF 3,000 CUBIC FEET IN SPECIFIED MONTHS OF EACH YEAR, 1913 TO 1930

| Date | Average net price | Relative price | Date | Average net price | Relative price |
|---------------------|----------------------|-------------------|---------------------|----------------------|-------------------|
| Apr. 15, 1913..... | \$0.95 | 100.0 | Dec. 15, 1923..... | \$1.25 | 131.6 |
| Apr. 15, 1914..... | .94 | 98.9 | Mar. 15, 1924..... | 1.24 | 130.5 |
| Apr. 15, 1915..... | .93 | 97.9 | June 15, 1924..... | 1.24 | 130.5 |
| Apr. 15, 1916..... | .92 | 96.8 | Sept. 15, 1924..... | 1.24 | 130.5 |
| Apr. 15, 1917..... | .91 | 95.8 | Dec. 15, 1924..... | 1.24 | 130.5 |
| Apr. 15, 1918..... | .95 | 100.0 | June 15, 1925..... | 1.23 | 129.5 |
| Apr. 15, 1919..... | 1.04 | 109.5 | Dec. 15, 1925..... | 1.23 | 129.5 |
| Apr. 15, 1920..... | 1.09 | 114.7 | June 15, 1926..... | 1.23 | 129.5 |
| May 15, 1921..... | 1.32 | 138.9 | Dec. 15, 1926..... | 1.22 | 128.4 |
| Sept. 15, 1921..... | 1.31 | 137.9 | June 15, 1927..... | 1.22 | 128.4 |
| Dec. 15, 1921..... | 1.30 | 136.8 | Dec. 15, 1927..... | 1.22 | 128.4 |
| Mar. 15, 1922..... | 1.29 | 135.8 | June 15, 1928..... | 1.21 | 127.4 |
| June 15, 1922..... | 1.27 | 133.7 | Dec. 15, 1928..... | 1.22 | 128.4 |
| Sept. 15, 1922..... | 1.26 | 132.6 | June 15, 1929..... | 1.22 | 128.4 |
| Dec. 15, 1922..... | 1.25 | 131.6 | Dec. 15, 1929..... | 1.21 | 127.4 |
| Mar. 15, 1923..... | 1.25 | 131.6 | June 15, 1930..... | 1.21 | 127.4 |
| June 15, 1923..... | 1.24 | 130.5 | Dec. 15, 1930..... | 1.18 | 124.2 |
| Sept. 15, 1923..... | 1.24 | 130.5 | | | |

Retail Prices of Electricity in the United States

Explanation of Prices

THE following table shows for 51 cities the net rates per kilowatt-hour of electricity used for household purposes for specified months in 1928, 1929, and 1930. For the cities having more than one tariff for domestic consumers the rates are shown for the schedule under which most of the residences are served.

Several cities have sliding scales based on a variable number of kilowatt-hours payable at each rate. The number of kilowatt-hours payable at each rate in these cities is determined for each customer according to the watts of installation, either in whole or in part, in the individual home. The number of watts so determined is called the customer's "demand."

In Baltimore the demand is the maximum normal rate of use of electricity in any half-hour period of time. It may be estimated or determined by the company from time to time according to the customer's normal use of electricity and may equal the total installation reduced to kilowatts.

In Buffalo the demand consists of two parts—lighting, 25 per cent of the total installation, but never less than 250 watts; and power, $2\frac{1}{2}$ per cent of the capacity of any electric range, water heater, or other appliance of 1,000 watts or over and 25 per cent of the rated capacity of motors exceeding one-half horsepower but less than 1 horsepower. The installation is determined by inspection of premises.

In Houston the demand is estimated as 50 per cent of the connected load, each socket opening being rated at 50 watts.

In New York the demand for Company C, when not determined by meter, has been computed at 50 per cent of total installation in residences, each standard socket being rated at 50 watts and all other outlets being rated at their actual kilowatt capacity.

In Portland, Oreg., the demand for Company A has been estimated as one-third of the connected lighting load. Ranges, heating devices, and small power up to a rated capacity of 2 kilowatts are not included.

In Washington, D. C., the demand is determined by inspection and consists of 100 per cent of the connected load, excluding small fans and heating and cooking appliances when not permanently connected.

NET PRICE PER KILOWATT-HOUR FOR ELECTRICITY FOR HOUSEHOLD USE IN SPECIFIED MONTHS OF 1928, 1929, AND 1930, FOR 51 CITIES

| City | Measure of consumption, per month | De- cem- ber, 1928 | June, 1929 | De- cem- ber, 1929 | June, 1930 | De- cem- ber, 1930 |
|-------------------|---|-----------------------------|-------------------|-----------------------------|---------------|-----------------------------|
| | | <i>Cents</i> | <i>Cents</i> | <i>Cents</i> | <i>Cents</i> | <i>Cents</i> |
| Atlanta | Service charge | | 100.0 | 100.0 | 100.0 | 100.0 |
| | First 50 kilowatt-hours | ¹ 8.1 | 5.0 | 5.0 | 5.0 | 5.0 |
| | Next 150 kilowatt-hours | | 3.0 | 3.0 | 3.0 | 3.0 |
| Baltimore | First 20 hours' use of demand ² | 7.0 | 7.0 | 6.7 | 6.7 | 6.7 |
| | Next kilowatt-hours equal to 8 times the consumption at the primary rate—minimum 200 kilowatt-hours. | ² 4.0 | ² 4.0 | 3.4 | 3.4 | 3.4 |
| Birmingham | First 100 kilowatt-hours | 7.7 | 7.7 | 7.7 | 7.7 | 7.7 |
| Boston | First 2 kilowatt-hours per 100 square feet of floor area. | 8.5 | 8.5 | 8.5 | 8.5 | 7.5 |
| | Next 70 kilowatt-hours | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 |
| | Excess | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 |
| Bridgeport | All current | 5.5 | 5.5 | 5.5 | 5.5 | 5.5 |
| Buffalo | First 60 hours' use of demand ² | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 |
| | Next 120 hours' use of demand ² | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 |
| | Excess | 1.5 | 1.5 | 1.5 | 1.5 | 1.5 |
| Butte | First 25 kilowatt-hours | 8.0 | 8.0 | 8.0 | 8.0 | 8.0 |
| | Next 25 kilowatt-hours | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 |
| Charleston, S. C. | First 50 kilowatt-hours | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 |
| Chicago | First 3 kilowatt-hours per room | 7.0 | 7.0 | 7.0 | 7.0 | 7.0 |
| | Next 3 kilowatt-hours per room | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 |
| | Excess | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 |
| Cincinnati | Service charge per room | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 |
| | First 6 kilowatt-hours per room; minimum, 4 rooms. | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 |
| | Excess | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 |
| Cleveland: | | | | | | |
| Company A | First 40 kilowatt-hours | ⁴ 5.0 | ⁴ 5.0 | ⁴ 6.0 | 5.0 | 5.0 |
| | Next 200 kilowatt-hours | | | | 4.0 | 4.0 |
| Company B | Service charge | 30.0 | 30.0 | 30.0 | 30.0 | 30.0 |
| | First 600 kilowatt-hours | ⁵ 3.0 | ⁵ 3.0 | ⁵ 3.0 | 3.0 | 3.0 |
| Columbus | First 50 kilowatt-hours | ⁶ 7.0 | 7.0 | 6.0 | 6.0 | 6.0 |
| Dallas | First 800 kilowatt-hours | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 |
| Denver | First 15 kilowatt-hours | 7.0 | 7.0 | 7.0 | 7.0 | 7.0 |
| | Next 30 kilowatt-hours | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 |
| | Excess | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 |
| Detroit | First 3 kilowatt-hours per active room; minimum, 3 rooms. | 9.0 | 9.0 | 9.0 | 9.0 | 9.0 |
| | Next 50 kilowatt-hours | 3.6 | 3.6 | 3.6 | 3.6 | 3.6 |
| | Excess | 2.3 | 2.3 | 2.3 | 2.3 | 2.3 |
| Fall River | First 25 kilowatt-hours | 8.0 | 8.0 | 8.0 | 8.0 | 8.0 |
| | Next 75 kilowatt-hours | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 |
| Houston | First 3 kilowatt-hours per room; minimum, 4 rooms. | ⁷ 7.2 | ⁷ 7.2 | 7.0 | 7.0 | 7.0 |
| | Next 100 kilowatt-hours | ⁸ 4.5 | ⁸ 4.5 | 4.0 | 4.0 | 4.0 |
| Indianapolis | First 50 kilowatt-hours | 6.5 | 6.5 | 6.5 | 6.5 | 6.5 |
| | Next 50 kilowatt-hours | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 |
| Jacksonville | First 500 kilowatt-hours | ⁹ 7.0 | ⁹ 7.0 | 7.0 | 7.0 | 7.0 |
| Kansas City | First 5 kilowatt-hours per active room; minimum, 3 rooms. | 7.0 | 7.0 | 6.5 | 6.5 | 6.5 |
| | Next 5 kilowatt-hours per room | 5.0 | 5.0 | 4.5 | 4.5 | 4.5 |
| | Excess | 2.5 | 2.5 | 2.5 | 2.5 | 2.5 |
| Little Rock | First 4 rooms or less. (Rooms in excess of 4, 10 cents each additional.) | | | | 50.0 | 50.0 |
| | First 6 kilowatt-hours per room | ⁹ 10.0 | ⁹ 10.0 | ⁹ 10.0 | 7.0 | 7.0 |
| | Next 6 kilowatt-hours per room | | | | 5.0 | 5.0 |
| Los Angeles | First 35 kilowatt-hours | ¹⁰ 5.0 | ¹⁰ 5.0 | ¹⁰ 5.0 | 4.8 | 4.8 |
| | Next 140 kilowatt-hours | | | | 2.5 | 2.5 |
| Louisville | First 30 kilowatt-hours | ¹¹ 7.6 | ¹¹ 7.6 | 7.6 | 7.6 | 7.6 |
| Manchester | First step: 3 rooms, 15 kilowatt-hours; 4 rooms, 18 kilowatt-hours; 5 rooms, 21 kilowatt-hours; 6 rooms, 24 kilowatt-hours; 7 rooms, 27 kilowatt-hours; 8 rooms, 30 kilowatt-hours. | 11.0 | 10.0 | 10.0 | 10.0 | 10.0 |
| | Next step: Number of kilowatt-hours equal to the first step. | 7.0 | 7.0 | 7.0 | 7.0 | 6.0 |
| Memphis | First 6 kilowatt-hours per room | 8.0 | 8.0 | 8.0 | 8.0 | 8.0 |
| | Excess | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 |
| Milwaukee | First 9 kilowatt-hours for each of the first 6 active rooms and the first 7 kilowatt-hours for each active room in addition to the first 6. | 6.7 | 6.7 | 6.7 | 6.2 | 6.2 |
| | Next kilowatt-hours up to 200 | ¹² 2.9 | ¹² 2.9 | ¹² 2.9 | 2.9 | 2.9 |
| | Excess | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 |
| Minneapolis | First 3 kilowatt-hours per active room; minimum, 2 rooms. | 8.6 | 8.6 | 8.6 | 8.6 | 8.6 |
| | Next 3 kilowatt-hours per active room | 7.1 | 7.1 | 7.1 | 7.1 | 7.1 |

For footnotes see end of table.

NET PRICE PER KILOWATT-HOUR FOR ELECTRICITY FOR HOUSEHOLD USE IN SPECIFIED MONTHS OF 1928, 1929, AND 1930, FOR 51 CITIES—Continued

| City | Measure of consumption, per month | De- cem- ber, 1928 | June, 1929 | De- cem- ber, 1929 | June, 1930 | De- cem- ber, 1930 |
|---------------------|--|-----------------------------|---------------|-----------------------------|---------------|-----------------------------|
| | | Cents | Cents | Cents | Cents | Cents |
| Mobile..... | Service charge for house of 3 rooms—con- sumption of 5 kilowatt-hours included, 10 cents extra for each additional room; not more than 10 rooms counted. | | 80.0 | 80.0 | 80.0 | 80.0 |
| | First 50 kilowatt-hours..... | 9.0 | | | | |
| | Next 45 kilowatt-hours..... | | 5.0 | 5.0 | 5.0 | 5.0 |
| Newark..... | First 20 kilowatt-hours..... | 9.0 | 9.0 | 9.0 | 9.0 | 9.0 |
| | Next 30 kilowatt-hours..... | 8.0 | 8.0 | 8.0 | 8.0 | 8.0 |
| New Haven..... | All current..... | 5.5 | 5.5 | 5.5 | 5.5 | 5.5 |
| New Orleans..... | Service charge..... | 25.0 | 25.0 | 25.0 | 25.0 | 25.0 |
| | First 20 kilowatt-hours..... | 9.1 | 9.1 | 9.1 | 9.1 | 9.1 |
| | Next 30 kilowatt-hours..... | 7.8 | 7.8 | 7.8 | 7.8 | 7.8 |
| New York: | | | | | | |
| Company A..... | First 1,000 kilowatt-hours..... | 7.0 | 7.0 | 7.0 | 7.0 | 7.0 |
| Company B..... | All current..... | 9.5 | 9.5 | 9.5 | 9.5 | 9.5 |
| Company C..... | First 60 hours' use of demand ¹ | 7.0 | 7.0 | 7.0 | 7.0 | 7.0 |
| Norfolk..... | First 100 kilowatt-hours..... | 8.5 | 8.5 | 8.5 | 8.5 | 8.5 |
| Omaha..... | First 10 kilowatt-hours per room..... | 5.5 | 5.5 | 5.5 | 5.5 | 5.5 |
| | Next 160 kilowatt-hours..... | | 3.0 | 3.0 | 3.0 | 3.0 |
| Peoria..... | First 4 kilowatt-hours per active room..... | 9.0 | 9.0 | 9.0 | 9.0 | 9.0 |
| | Next 4 kilowatt-hours per active room..... | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 |
| | Excess..... | | 3.0 | 3.0 | 3.0 | 3.0 |
| Philadelphia: | | | | | | |
| Company A..... | Minimum charge including use of first 10 kilowatt-hours..... | 8.0 | 8.0 | 8.0 | 8.0 | 75.0 |
| | Next 38 kilowatt-hours..... | 7.0 | 6.0 | 6.0 | 6.0 | 6.0 |
| Company B..... | First 20 kilowatt-hours..... | 9.0 | 9.0 | 9.0 | 9.0 | 9.0 |
| | Next 30 kilowatt-hours..... | 8.0 | 8.0 | 8.0 | 8.0 | 8.0 |
| Pittsburgh..... | First 10 kilowatt-hours..... | 8.0 | 8.0 | 8.0 | 8.0 | 8.0 |
| | Next 20 kilowatt-hours..... | 5.5 | 5.5 | 5.5 | 5.5 | 5.5 |
| | Next 30 kilowatt-hours..... | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 |
| Portland, Me..... | First 3 rooms, 15 kilowatt-hours; 4 rooms, 18 kilowatt-hours; 5 rooms, 21 kilowatt- hours; 6 rooms, 24 kilowatt-hours; 7 rooms, 27 kilowatt-hours; 8 rooms, 30 kilowatt-hours..... | 8.0 | 8.0 | 8.0 | 8.0 | 8.0 |
| | Next 3 rooms, 35 kilowatt-hours; 4 rooms, 42 kilowatt-hours; 5 rooms, 49 kilowatt- hours; 6 rooms, 56 kilowatt-hours; 7 rooms, 63 kilowatt-hours; 8 rooms, 70 kilowatt-hours..... | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 |
| Portland, Oreg.: | | | | | | |
| Company A..... | First 30 kilowatt-hours..... | 7.6 | 7.6 | 7.6 | 7.6 | 5.5 |
| | Next 40 kilowatt-hours..... | 6.7 | 6.7 | 6.7 | 6.7 | 3.0 |
| | Excess..... | 2.9 | 2.9 | 2.9 | 2.9 | 1.8 |
| Company B..... | First 30 kilowatt-hours..... | 7.3 | 7.3 | 7.3 | 7.3 | 5.5 |
| | Next 40 kilowatt-hours..... | 6.7 | 6.7 | 6.7 | 6.7 | 3.0 |
| | Excess..... | 2.9 | 2.9 | 2.9 | 2.9 | 1.8 |
| Providence..... | Service charge..... | 50.0 | 50.0 | 50.0 | 50.0 | 50.0 |
| | All current..... | 6.5 | 6.5 | 6.5 | 6.5 | 6.5 |
| Richmond..... | First 100 kilowatt-hours..... | 8.5 | 8.5 | 8.5 | 8.5 | 8.5 |
| Rochester..... | All current..... | 8.0 | 8.0 | 8.0 | 8.0 | 8.0 |
| St. Louis: | | | | | | |
| Company A..... | First 9 kilowatt-hours per active room..... | 6.7 | 6.7 | 6.7 | 6.7 | 6.7 |
| | Excess..... | 2.4 | 2.4 | 2.4 | 2.4 | 2.4 |
| Company B..... | First 4 rooms or less, 18 kilowatt-hours; 5 or 6 rooms, 27 kilowatt-hours; 7 or 8 rooms, 36 kilowatt-hours..... | 6.7 | 6.7 | 6.7 | 6.7 | 6.7 |
| | Excess..... | 2.4 | 2.4 | 2.4 | 2.4 | 2.4 |
| St. Paul..... | First 3 kilowatt-hours per room..... | 8.6 | 8.6 | 8.6 | 8.6 | 8.6 |
| | Next 3 kilowatt-hours per room..... | 7.1 | 7.1 | 7.1 | 7.1 | 7.1 |
| | Excess..... | 2.9 | 2.9 | 2.9 | 2.9 | 2.9 |
| Salt Lake City..... | Service charge—consumption of 11 kilo- watt-hours included..... | | 90.0 | 90.0 | 90.0 | 90.0 |
| | First 250 kilowatt-hours..... | 8.1 | | | | |
| | Excess..... | | 7.0 | 7.0 | 7.0 | 7.0 |
| San Francisco..... | Service charge..... | 40.0 | 40.0 | 40.0 | 40.0 | 40.0 |
| | First 30 kilowatt-hours for residence of 6 rooms. 5 kilowatt-hours added for each additional room..... | 5.0 | 5.0 | 5.0 | 4.5 | 4.5 |
| | Next 140 kilowatt-hours..... | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 |

For footnotes see end of table.

NET PRICE PER KILOWATT-HOUR FOR ELECTRICITY FOR HOUSEHOLD USE IN SPECIFIED MONTHS OF 1928, 1929, AND 1930, FOR 51 CITIES—Continued

| City | Measure of consumption, per month | De- cem- ber, 1928 | June, 1929 | De- cem- ber, 1929 | June, 1930 | De- cem- ber, 1930 |
|--------------------|-----------------------------------|-----------------------------|-------------------|-----------------------------|-------------------|-----------------------------|
| | | <i>Cents</i> | <i>Cents</i> | <i>Cents</i> | <i>Cents</i> | <i>Cents</i> |
| Savannah..... | Service charge..... | | | 100.0 | 100.0 | 100.0 |
| | First 50 kilowatt-hours..... | ¹ 9.0 | ¹ 9.0 | 6.0 | 6.0 | 6.0 |
| Scranton..... | First 250 kilowatt-hours..... | ²¹ 9.0 | ²¹ 9.0 | ²¹ 9.0 | ²¹ 9.0 | 8.0 |
| Seattle: | | | | | | |
| Company A..... | First 40 kilowatt-hours..... | 5.5 | 5.5 | 5.5 | 5.5 | 5.5 |
| | Next 200 kilowatt-hours..... | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 |
| Company B..... | First 40 kilowatt-hours..... | 5.5 | 5.5 | 5.5 | 5.5 | 5.5 |
| | Next 200 kilowatt-hours..... | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 |
| Springfield, Ill.: | | | | | | |
| Company A..... | First 30 kilowatt-hours..... | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 |
| | Next 70 kilowatt-hours..... | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 |
| Company B..... | First 30 kilowatt-hours..... | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 |
| | Next 70 kilowatt-hours..... | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 |
| Washington, D. C. | All current..... | ²² 5.9 | 5.2 | 5.2 | 4.7 | 4.7 |
| Honolulu, Hawaii.. | First 100 kilowatt-hours..... | 8.0 | 8.0 | 8.0 | 8.0 | 8.0 |

¹ First 100 kilowatt-hours.² For determination of demand see explanation of prices.³ Next kilowatt-hours up to 800.⁴ First 80 kilowatt-hours.⁵ All current.⁶ First 75 kilowatt-hours.⁷ First 30 hours' use of demand. For determination of demand see explanation of prices.⁸ Excess.⁹ First 200 kilowatt-hours.¹⁰ First 50 kilowatt-hours.¹¹ 1 to 149 kilowatt-hours.¹² Next kilowatt-hours up to 300.¹³ 5 kilowatt-hours for each of the first 2 active rooms and first 4 kilowatt-hours for each additional active room.¹⁴ First 12 kilowatt-hours.¹⁵ Next 36 kilowatt-hours.¹⁶ First 9 kilowatt-hours.¹⁷ Next kilowatt-hours in excess of the first 9 kilowatt-hours until 100 use of demand has been reached. For determination of demand see explanation of prices.¹⁸ Next 50 kilowatt-hours.¹⁹ First 13 kilowatt-hours.²⁰ Next kilowatt-hours: For an installation of 600 watts or less 7 kilowatt-hours will apply. For each 30 watts of installation in excess of 600 watts 1 additional kilowatt-hour will apply.²¹ First 150 kilowatt-hours.²² First 120 hours' use of demand. For determination of demand see explanation of prices.

Index Numbers of Wholesale Prices of Farm Products, Foods, and Other Commodities, 1913 to 1930

IN THE June, 1930, issue of the Monthly Labor Review, page 255, there was published a comparison of price trends of farm products and foods with all other commodities included in the bureau's compilation of wholesale prices for the period from January, 1920, to April, 1930, inclusive. In response to requests for this information the computations have been extended to include all months of the years 1913 to 1930. The figures in the table which follows are strictly comparable with other index numbers of wholesale prices being published currently by the bureau.

INDEX NUMBERS OF WHOLESALE PRICES OF FARM PRODUCTS, FOODS, AND OTHER COMMODITIES

[1926=100.0]

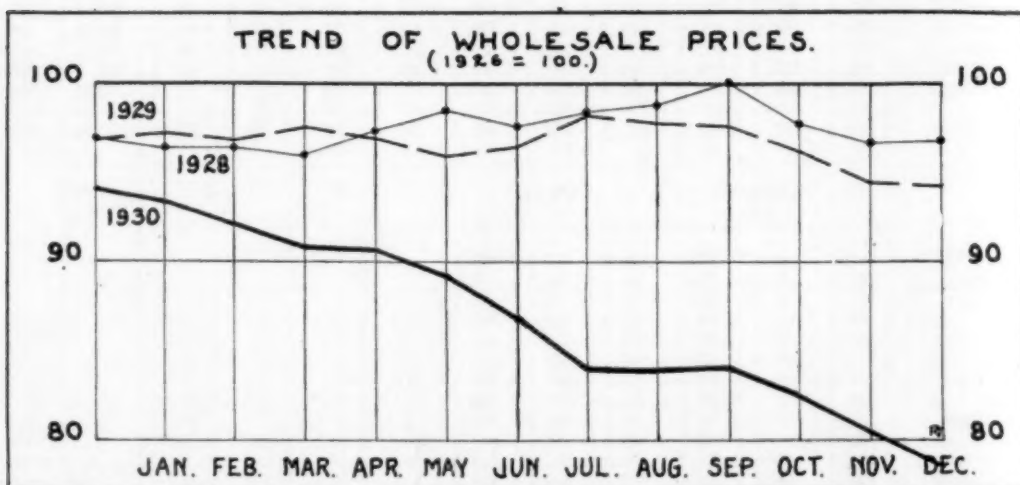
| Month | 1913 | | | 1914 | | | 1915 | | | 1916 | | |
|----------------|---------------|-------|-------------------|---------------|-------|-------------------|---------------|-------|-------------------|---------------|-------|-------------------|
| | Farm products | Foods | Other commodities | Farm products | Foods | Other commodities | Farm products | Foods | Other commodities | Farm products | Foods | Other commodities |
| January..... | 69.6 | 63.5 | 72.4 | 75.0 | 64.2 | 67.6 | 71.6 | 66.6 | 65.2 | 76.9 | 67.9 | 80.3 |
| February..... | 69.4 | 62.9 | 71.6 | 72.5 | 63.1 | 67.6 | 72.8 | 66.7 | 65.0 | 77.0 | 68.3 | 82.3 |
| March..... | 69.7 | 63.1 | 71.1 | 72.1 | 62.0 | 67.6 | 71.3 | 65.6 | 65.0 | 76.9 | 70.0 | 84.7 |
| April..... | 69.5 | 63.0 | 70.6 | 71.5 | 60.7 | 67.5 | 72.0 | 65.4 | 65.5 | 77.9 | 71.1 | 85.7 |
| May..... | 69.1 | 62.2 | 70.0 | 71.4 | 61.0 | 76.8 | 72.3 | 65.1 | 66.0 | 78.5 | 71.7 | 86.4 |
| June..... | 69.8 | 62.9 | 69.7 | 71.6 | 62.2 | 66.2 | 70.3 | 64.0 | 66.7 | 78.2 | 73.0 | 86.7 |
| July..... | 71.6 | 64.8 | 69.3 | 71.4 | 62.9 | 65.7 | 71.7 | 64.7 | 67.8 | 80.4 | 74.5 | 86.1 |
| August..... | 72.3 | 65.5 | 69.0 | 72.5 | 68.8 | 65.9 | 71.0 | 63.5 | 67.5 | 86.1 | 76.8 | 85.9 |
| September..... | 74.5 | 66.1 | 69.6 | 71.2 | 70.2 | 66.6 | 69.2 | 62.7 | 68.5 | 89.5 | 79.0 | 86.8 |
| October..... | 74.6 | 65.7 | 69.5 | 68.3 | 68.1 | 65.1 | 71.8 | 65.2 | 70.1 | 93.9 | 83.6 | 91.0 |
| November..... | 75.0 | 66.4 | 69.0 | 69.8 | 67.5 | 64.5 | 71.5 | 67.5 | 72.4 | 100.3 | 87.4 | 99.0 |
| December..... | 73.4 | 65.4 | 68.0 | 69.0 | 66.7 | 65.0 | 73.1 | 68.5 | 75.7 | 99.0 | 85.3 | 104.4 |
| Year..... | 71.5 | 64.2 | 70.0 | 71.2 | 64.7 | 66.4 | 71.5 | 65.4 | 68.0 | 84.4 | 75.7 | 88.3 |
| Month | 1917 | | | 1918 | | | 1919 | | | 1920 | | |
| | Farm products | Foods | Other commodities | Farm products | Foods | Other commodities | Farm products | Foods | Other commodities | Farm products | Foods | Other commodities |
| January..... | 103.9 | 86.5 | 107.4 | 146.7 | 114.9 | 116.8 | 154.0 | 128.4 | 124.3 | 170.2 | 145.1 | 153.3 |
| February..... | 107.7 | 89.2 | 109.4 | 147.2 | 114.8 | 111.4 | 148.5 | 121.3 | 120.7 | 163.3 | 138.2 | 159.2 |
| March..... | 113.3 | 92.1 | 110.4 | 147.5 | 111.9 | 118.7 | 152.4 | 126.5 | 118.3 | 164.5 | 136.1 | 162.8 |
| April..... | 125.1 | 102.1 | 111.6 | 145.0 | 113.4 | 122.0 | 158.4 | 128.5 | 117.4 | 168.7 | 144.6 | 169.0 |
| May..... | 133.4 | 108.6 | 116.3 | 140.2 | 113.3 | 123.7 | 162.0 | 131.6 | 118.8 | 169.8 | 147.3 | 170.6 |
| June..... | 134.0 | 106.6 | 119.8 | 140.2 | 113.5 | 125.1 | 156.9 | 127.3 | 123.8 | 167.4 | 149.0 | 170.5 |
| July..... | 134.9 | 105.3 | 121.9 | 146.6 | 118.3 | 126.4 | 164.5 | 150.5 | 129.8 | 160.4 | 146.8 | 173.4 |
| August..... | 137.1 | 109.4 | 121.6 | 153.0 | 119.7 | 127.9 | 163.4 | 132.3 | 135.9 | 149.9 | 138.4 | 174.2 |
| September..... | 135.9 | 111.0 | 118.3 | 157.0 | 124.2 | 129.7 | 153.2 | 128.7 | 136.7 | 143.9 | 134.8 | 167.4 |
| October..... | 139.5 | 114.9 | 112.6 | 151.4 | 126.8 | 129.8 | 152.8 | 128.8 | 138.1 | 127.8 | 127.7 | 158.0 |
| November..... | 142.7 | 114.9 | 112.9 | 150.3 | 128.6 | 129.9 | 159.5 | 130.8 | 140.2 | 118.7 | 123.9 | 144.0 |
| December..... | 141.0 | 114.4 | 114.4 | 151.1 | 130.3 | 128.4 | 165.5 | 138.3 | 145.3 | 104.6 | 109.7 | 133.3 |
| Year..... | 129.0 | 104.5 | 114.2 | 148.0 | 119.1 | 124.6 | 157.6 | 129.5 | 128.8 | 150.7 | 137.4 | 161.3 |
| Month | 1921 | | | 1922 | | | 1923 | | | 1924 | | |
| | Farm products | Foods | Other commodities | Farm products | Foods | Other commodities | Farm products | Foods | Other commodities | Farm products | Foods | Other commodities |
| January..... | 101.6 | 103.9 | 124.2 | 88.0 | 83.3 | 98.1 | 99.6 | 92.3 | 107.0 | 101.4 | 91.4 | 102.4 |
| February..... | 92.7 | 94.6 | 114.1 | 95.1 | 83.7 | 97.5 | 100.0 | 91.2 | 109.3 | 98.8 | 90.8 | 103.5 |
| March..... | 89.9 | 93.6 | 110.0 | 93.4 | 84.2 | 97.0 | 100.2 | 92.6 | 110.6 | 95.7 | 89.2 | 102.8 |
| April..... | 82.8 | 89.9 | 108.3 | 92.6 | 84.3 | 97.8 | 98.5 | 93.3 | 110.0 | 97.3 | 86.7 | 101.4 |
| May..... | 83.1 | 86.0 | 105.5 | 94.3 | 84.8 | 101.9 | 96.7 | 92.3 | 107.4 | 95.1 | 85.3 | 100.0 |
| June..... | 80.6 | 83.9 | 102.4 | 92.8 | 86.2 | 102.2 | 96.0 | 91.7 | 105.1 | 94.3 | 86.5 | 98.1 |
| July..... | 86.5 | 87.5 | 99.2 | 95.6 | 88.4 | 106.3 | 94.0 | 90.5 | 103.4 | 98.6 | 87.4 | 97.4 |
| August..... | 88.9 | 91.8 | 96.7 | 91.2 | 87.3 | 106.9 | 95.8 | 89.9 | 102.0 | 102.0 | 90.3 | 97.7 |
| September..... | 89.7 | 90.6 | 96.8 | 92.4 | 88.6 | 107.1 | 100.0 | 94.0 | 101.8 | 100.4 | 92.8 | 97.7 |
| October..... | 89.7 | 89.6 | 99.8 | 94.2 | 91.6 | 105.4 | 100.6 | 95.8 | 100.6 | 103.2 | 94.9 | 97.7 |
| November..... | 87.6 | 89.4 | 101.4 | 97.8 | 94.8 | 104.3 | 101.8 | 95.1 | 99.3 | 103.6 | 97.1 | 98.8 |
| December..... | 87.9 | 86.8 | 100.1 | 99.2 | 95.0 | 104.1 | 101.0 | 92.9 | 99.5 | 108.3 | 99.3 | 100.6 |
| Year..... | 88.4 | 90.6 | 104.9 | 93.8 | 87.6 | 102.4 | 98.6 | 92.7 | 104.3 | 100.0 | 91.0 | 99.7 |

In the group of textile products there were small decreases among cotton goods and woolen and worsted goods. Silk and rayon, on the contrary, showed a slight advance in price.

Anthracite and bituminous coal and coke showed no change in the general price level, while petroleum products again moved downward, resulting in a small decrease in fuel and lighting materials as a whole.

Among metals and metal products there was a slight decrease in iron and steel, also automobiles, while nonferrous metals again advanced.

Building materials were downward, as lumber, brick, cement, paint materials, and certain other building materials declined in price.



Chemicals and drugs, including fertilizer materials and mixed fertilizers, were somewhat cheaper than in November.

House-furnishing goods also moved downward, with slight declines in furniture and larger declines in furnishings.

In the group of miscellaneous commodities cattle feed again moved downward, while paper and pulp, crude rubber, and automobile tires were unchanged in price.

Raw materials as a whole averaged lower than in November, as did also semimanufactured commodities and finished products.

In the large group of nonagricultural commodities, including all articles other than farm products and among all commodities other than farm products and foods, December prices averaged lower than those of the month before.

INDEX NUMBERS OF WHOLESALE PRICES BY GROUPS AND SUBGROUPS OF COMMODITIES

[1926=100.0]

| Groups and subgroups | December, 1929 | November, 1930 | December, 1930 | Year 1930 | Purchasing power of the dollar, December, 1930 |
|---|-------------------|-------------------|-------------------|--------------|--|
| All commodities..... | 94.2 | 80.4 | 78.4 | 86.3 | \$1.276 |
| Farm products..... | 101.9 | 79.3 | 75.2 | 88.3 | 1.330 |
| Grains..... | 97.5 | 64.0 | 64.0 | 78.3 | 1.563 |
| Livestock and poultry..... | 94.6 | 77.7 | 76.3 | 89.2 | 1.311 |
| Other farm products..... | 108.2 | 85.4 | 78.1 | 91.1 | 1.280 |
| Foods..... | 98.6 | 85.7 | 81.8 | 90.1 | 1.222 |
| Butter, cheese, and milk..... | 101.9 | 95.8 | 89.4 | 95.7 | 1.119 |
| Meats..... | 103.2 | 91.4 | 89.2 | 98.4 | 1.121 |
| Other foods..... | 94.4 | 78.4 | 74.5 | 83.0 | 1.342 |
| Hides and leather products..... | 107.4 | 94.0 | 91.2 | 99.9 | 1.096 |
| Hides and skins..... | 107.4 | 75.1 | 69.4 | 91.0 | 1.441 |
| Leather..... | 110.6 | 93.3 | 91.5 | 101.3 | 1.093 |
| Boots and shoes..... | 106.1 | 100.3 | 97.7 | 102.0 | 1.024 |
| Other leather products..... | 106.1 | 104.2 | 104.2 | 105.1 | .960 |
| Textile products..... | 90.4 | 73.3 | 72.4 | 80.7 | 1.381 |
| Cotton goods..... | 97.2 | 81.9 | 79.7 | 87.4 | 1.255 |
| Silk and rayon..... | 75.4 | 50.7 | 51.7 | 63.2 | 1.934 |
| Woolen and worsted goods..... | 94.6 | 83.2 | 82.3 | 87.8 | 1.215 |
| Other textile products..... | 75.1 | 57.9 | 57.8 | 66.0 | 1.730 |
| Fuel and lighting materials..... | 81.3 | 71.8 | 70.5 | 76.1 | 1.418 |
| Anthracite coal..... | 91.2 | 89.6 | 89.6 | 89.1 | 1.116 |
| Bituminous coal..... | 92.4 | 89.1 | 89.1 | 89.4 | 1.122 |
| Coke..... | 84.2 | 83.9 | 83.8 | 84.0 | 1.193 |
| Gas..... | 91.7 | 97.0 | (1) | (1) | ----- |
| Petroleum products..... | 69.9 | 53.3 | 51.1 | 61.5 | 1.957 |
| Metals and metal products..... | 102.1 | 90.2 | 90.0 | 95.3 | 1.111 |
| Iron and steel..... | 96.3 | 88.3 | 88.0 | 91.5 | 1.136 |
| Nonferrous metals..... | 101.5 | 68.4 | 69.7 | 80.7 | 1.435 |
| Agricultural implements..... | 96.1 | 94.9 | 94.9 | 95.1 | 1.054 |
| Automobiles..... | 108.0 | 99.8 | 99.5 | 104.5 | 1.005 |
| Other metal products..... | 98.6 | 98.0 | 95.2 | 97.9 | 1.050 |
| Building materials..... | 96.2 | 85.6 | 84.4 | 90.3 | 1.185 |
| Lumber..... | 92.4 | 80.1 | 78.1 | 85.7 | 1.280 |
| Brick..... | 90.5 | 81.8 | 81.6 | 84.7 | 1.225 |
| Cement..... | 89.2 | 91.1 | 90.6 | 91.8 | 1.104 |
| Structural steel..... | 97.0 | 81.7 | 81.7 | 87.3 | 1.224 |
| Paint materials..... | 95.7 | 74.4 | 72.4 | 84.9 | 1.381 |
| Other building materials..... | 106.5 | 97.8 | 97.1 | 101.1 | 1.030 |
| Chemicals and drugs..... | 93.6 | 85.2 | 84.8 | 88.7 | 1.179 |
| Chemicals..... | 99.6 | 89.2 | 89.1 | 93.5 | 1.122 |
| Drugs and pharmaceuticals..... | 70.6 | 66.3 | 65.5 | 67.4 | 1.527 |
| Fertilizer materials..... | 89.5 | 82.1 | 81.4 | 85.6 | 1.229 |
| Mixed fertilizers..... | 97.1 | 91.1 | 90.6 | 93.6 | 1.104 |
| Housefurnishing goods..... | 97.3 | 95.2 | 91.3 | 95.7 | 1.095 |
| Furniture..... | 96.7 | 96.5 | 95.5 | 96.5 | 1.049 |
| Furnishings..... | 97.7 | 94.0 | 87.6 | 94.9 | 1.142 |
| Miscellaneous..... | 79.8 | 67.8 | 66.9 | 73.4 | 1.495 |
| Cattle feed..... | 122.4 | 83.0 | 78.2 | 90.7 | 1.279 |
| Paper and pulp..... | 87.3 | 83.5 | 83.6 | 85.0 | 1.196 |
| Rubber..... | 33.2 | 18.6 | 18.6 | 24.5 | 5.376 |
| Automobile tires..... | 55.2 | 51.3 | 51.3 | 53.1 | 1.949 |
| Other miscellaneous..... | 108.9 | 88.9 | 86.9 | 99.7 | 1.151 |
| Raw materials..... | 95.0 | 76.8 | 74.2 | 84.3 | 1.348 |
| Semimanufactured articles..... | 94.3 | 75.6 | 74.3 | 82.2 | 1.346 |
| Finished products..... | 93.9 | 83.7 | 81.9 | 88.4 | 1.221 |
| Nonagricultural commodities..... | 92.1 | 80.9 | 79.4 | 85.9 | 1.259 |
| All commodities less farm products and foods..... | 91.4 | 80.1 | 79.0 | 85.1 | 1.266 |

¹ Data not yet available.

the following table, the results of the study are presented in a summary form.

The first column of the table shows the number of cases of each type of disease.

The second column shows the number of cases of each type of disease which were

fatal. The third column shows the number of cases of each type of disease which

were recovered from. The fourth column shows the number of cases of each type of

disease which were cured. The fifth column shows the number of cases of each type of

disease which were not cured. The sixth column shows the number of cases of each type of

disease which were not recovered from. The seventh column shows the number of cases of each type of

disease which were not cured. The eighth column shows the number of cases of each type of

disease which were not recovered from. The ninth column shows the number of cases of each type of

disease which were not cured. The tenth column shows the number of cases of each type of

disease which were not recovered from. The eleventh column shows the number of cases of each type of

disease which were not cured. The twelfth column shows the number of cases of each type of

disease which were not recovered from. The thirteenth column shows the number of cases of each type of

disease which were not cured. The fourteenth column shows the number of cases of each type of

disease which were not recovered from. The fifteenth column shows the number of cases of each type of

disease which were not cured. The sixteenth column shows the number of cases of each type of

disease which were not recovered from. The seventeenth column shows the number of cases of each type of

disease which were not cured. The eighteenth column shows the number of cases of each type of

disease which were not recovered from. The nineteenth column shows the number of cases of each type of

disease which were not cured. The twentieth column shows the number of cases of each type of

disease which were not recovered from. The twenty-first column shows the number of cases of each type of

disease which were not cured. The twenty-second column shows the number of cases of each type of

COST OF LIVING

Changes in Cost of Living in the United States

THE cost of living in the United States was 3.5 per cent lower in December, 1930, than in the preceding June, and 6.2 per cent lower than in December, 1929, as determined by the Bureau of Labor Statistics of the United States Department of Labor in its semiannual survey. The cost of living index number for December, 1930, is 160.7. This means an increase of 60.7 per cent since 1913, the base year of the index. The peak in the cost of living was in June, 1920, when the index was 216.5. As between June 1920, and December, 1930, there was a decrease of 25.8 per cent.

The data collected by the bureau consists of actual prices of standard articles of major importance in the family budget secured in 32 cities. Index numbers are given for each of these cities. For 19 of these cities the base period of the index is December, 1914, and for 13 of the cities it is December, 1917. For these cities as a whole the index number is based on 1913 since many other studies made by the bureau use 1913 as the base year. Retail prices of food and wholesale prices of other articles and certain other data compiled by the bureau were used to determine the change in cost of living between the average of 1913 and December, 1914.

Index numbers showing changes in the total cost of living in the United States for all periods for which data were gathered are given in Table 1.

TABLE 1.—INDEX NUMBERS SHOWING CHANGES IN COST OF LIVING IN THE UNITED STATES, 1913 TO DECEMBER, 1930

| Date | Index number | Date | Index number | Date | Index number |
|----------------------|--------------|----------------------|--------------|---------------------|--------------|
| Average, 1913..... | 100.0 | March, 1922..... | 166.9 | December, 1925..... | 177.9 |
| December, 1914..... | 103.0 | June, 1922..... | 166.4 | June, 1926..... | 174.8 |
| December, 1915..... | 105.1 | September, 1922..... | 166.3 | December, 1926..... | 175.6 |
| December, 1916..... | 118.3 | December, 1922..... | 169.5 | June, 1927..... | 173.4 |
| December, 1917..... | 142.4 | March, 1923..... | 168.8 | December, 1927..... | 172.0 |
| December, 1918..... | 174.4 | June, 1923..... | 169.7 | June, 1928..... | 170.0 |
| June, 1919..... | 177.3 | September, 1923..... | 172.1 | December, 1928..... | 171.3 |
| December, 1919..... | 199.3 | December, 1923..... | 173.2 | June, 1929..... | 170.2 |
| June, 1920..... | 216.5 | March, 1924..... | 170.4 | December, 1929..... | 171.4 |
| December, 1920..... | 200.4 | June, 1924..... | 169.1 | June, 1930..... | 166.6 |
| May, 1921..... | 180.4 | September, 1924..... | 170.6 | December, 1930..... | 160.7 |
| September, 1921..... | 177.3 | December, 1924..... | 172.5 | | |
| December, 1921..... | 174.3 | June, 1925..... | 173.5 | | |

Table 2 shows the index numbers which represent changes in 6 groups of items entering into the cost of living in the United States from 1913 to December, 1930.

Since 1913 food shows the least increase, 37.2 per cent. Rent ranks next with 46.5 per cent, and clothing next with 53.0 per cent.

In the period between June, 1920, the peak of prices, and December, 1930, clothing shows the largest decrease, 46.8 per cent; food comes next, showing a decrease of 37.4 per cent; and house-furnishing goods ranks next, having declined 35.7 per cent as compared with the index for June, 1920.

The change from June, 1930, to December, 1930, was: Food, a decrease of 7.2 per cent; clothing, a decrease of 3.7 per cent; rent, a decrease of 2.1 per cent; fuel and light, an increase of 1.3 per cent; house-furnishing goods, a decrease of 3.8 per cent; and miscellaneous items, a decrease of 0.2 per cent.

As between December, 1929, and December, 1930, the decreases were: Food, 13.2 per cent; clothing, 4.7 per cent; rent, 3.6 per cent; fuel and light, 2.1 per cent; and house-furnishing goods, 4.8 per cent. The only group that showed an increase was miscellaneous items, 0.1 per cent.

The food figures here used for the United States cover not only the cities herein listed but all other cities from which the bureau collects food prices.

TABLE 2.—INDEX NUMBERS SHOWING CHANGES IN COST OF GROUPS OF ITEMS ENTERING INTO COST OF LIVING IN THE UNITED STATES, 1913 TO DECEMBER, 1930

| Date | Index numbers | | | | | | |
|----------------------------|---------------|--------------|------------------|----------------|------------------------|---------------|--------------|
| | Food | Clothing | Rent | Fuel and light | House-furnishing goods | Miscellaneous | All items |
| Average, 1913 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| December, 1914..... | 105.0 | 101.0 | (¹) | 101.0 | 104.0 | 103.0 | 103.0 |
| December, 1915..... | 105.0 | 104.7 | 101.5 | 101.0 | 110.6 | 107.4 | 105.1 |
| December, 1916..... | 126.0 | 120.0 | 102.3 | 108.4 | 127.8 | 113.3 | 118.3 |
| December, 1917..... | 157.0 | 149.1 | 100.1 | 124.1 | 150.6 | 140.5 | 142.4 |
| December, 1918..... | 187.0 | 205.3 | 109.2 | 147.9 | 213.6 | 165.8 | 174.4 |
| June, 1919..... | 184.0 | 214.5 | 114.2 | 145.6 | 225.1 | 173.2 | 177.3 |
| December, 1919..... | 197.0 | 268.7 | 125.3 | 156.8 | 263.5 | 190.2 | 199.3 |
| June, 1920..... | 219.0 | 287.5 | 134.9 | 171.9 | 292.7 | 201.4 | 216.5 |
| December, 1920..... | 178.0 | 258.5 | 151.1 | 194.9 | 285.4 | 208.2 | 200.4 |
| May, 1921..... | 144.7 | 222.6 | 159.0 | 181.6 | 247.7 | 208.8 | 180.4 |
| September, 1921..... | 153.1 | 192.1 | 160.0 | 180.9 | 224.7 | 207.8 | 177.3 |
| December, 1921..... | 149.9 | 184.4 | 161.4 | 181.1 | 218.0 | 206.8 | 174.3 |
| March, 1922..... | 138.7 | 175.5 | 160.9 | 175.8 | 206.2 | 203.3 | 166.9 |
| June, 1922..... | 140.7 | 172.3 | 160.9 | 174.2 | 202.9 | 201.5 | 166.4 |
| September, 1922..... | 139.7 | 171.3 | 161.1 | 183.6 | 202.9 | 201.1 | 166.3 |
| December, 1922..... | 146.6 | 171.5 | 161.9 | 186.4 | 208.2 | 200.5 | 169.5 |
| March, 1923..... | 141.9 | 174.4 | 162.4 | 186.2 | 217.6 | 200.3 | 168.8 |
| June, 1923..... | 144.3 | 174.9 | 163.4 | 180.6 | 222.2 | 200.3 | 169.7 |
| September, 1923..... | 149.3 | 176.5 | 164.4 | 181.3 | 222.4 | 201.1 | 172.1 |
| December, 1923..... | 150.3 | 176.3 | 166.5 | 184.0 | 222.4 | 201.7 | 173.2 |
| March, 1924..... | 143.7 | 175.8 | 167.0 | 182.2 | 221.3 | 201.1 | 170.4 |
| June, 1924..... | 142.4 | 174.2 | 168.0 | 177.3 | 216.0 | 201.1 | 169.1 |
| September, 1924..... | 146.8 | 172.3 | 168.0 | 179.1 | 214.9 | 201.1 | 170.6 |
| December, 1924..... | 151.5 | 171.3 | 168.2 | 180.5 | 216.0 | 201.7 | 172.5 |
| June, 1925..... | 155.0 | 170.6 | 167.4 | 176.5 | 214.3 | 202.7 | 173.5 |
| December, 1925..... | 165.5 | 169.4 | 167.1 | 186.9 | 214.3 | 203.5 | 177.9 |
| June, 1926..... | 159.7 | 168.2 | 165.4 | 180.7 | 210.4 | 203.3 | 174.8 |
| December, 1926..... | 161.8 | 166.7 | 164.2 | 188.3 | 207.7 | 203.9 | 175.6 |
| June, 1927..... | 158.5 | 164.9 | 162.1 | 180.8 | 205.2 | 204.5 | 173.4 |
| December, 1927..... | 155.9 | 162.9 | 160.2 | 183.2 | 204.6 | 205.1 | 172.0 |
| June, 1928..... | 152.6 | 162.6 | 157.6 | 177.2 | 201.1 | 205.5 | 170.0 |
| December, 1928..... | 155.8 | 161.9 | 155.9 | 181.3 | 199.7 | 207.1 | 171.3 |
| June, 1929..... | 154.8 | 161.3 | 153.7 | 175.2 | 198.5 | 207.3 | 170.2 |
| December, 1929..... | 158.0 | 160.5 | 151.9 | 178.7 | 197.7 | 207.9 | 171.4 |
| June, 1930..... | 147.9 | 158.9 | 149.6 | 172.8 | 195.7 | 208.5 | 166.6 |
| December, 1930..... | 137.2 | 153.0 | 146.5 | 175.0 | 188.3 | 208.1 | 160.7 |

¹ No change.

In Table 3 is given the per cent of decrease in the price of electricity in the United States since December, 1913. The December, 1930, figure shows no change as compared to June, 1930, the decrease since December, 1913, remaining 18.5 per cent. These figures include all of the 32 cities throughout the period.

TABLE 3.—PER CENT OF DECREASE IN THE PRICE OF ELECTRICITY AT SPECIFIED PERIODS AS COMPARED WITH DECEMBER, 1913

| Date | Per cent of decrease from December, 1913 | Date | Per cent of decrease from December, 1913 | Date | Per cent of decrease from December, 1913 |
|----------------------|--|----------------------|--|---------------------|--|
| December, 1914..... | 3.7 | March, 1922..... | 4.9 | June, 1925..... | 9.9 |
| December, 1915..... | 6.2 | June, 1922..... | 6.2 | December, 1925..... | 9.9 |
| December, 1916..... | 8.6 | September, 1922..... | 6.2 | June, 1926..... | 11.1 |
| December, 1917..... | 11.1 | December, 1922..... | 7.4 | December, 1926..... | 11.1 |
| December, 1918..... | 6.2 | March, 1923..... | 7.4 | June, 1927..... | 12.3 |
| June, 1919..... | 6.2 | June, 1923..... | 7.4 | December, 1927..... | 12.3 |
| December, 1919..... | 7.4 | September, 1923..... | 8.6 | June, 1928..... | 13.6 |
| June, 1920..... | 7.4 | December, 1923..... | 8.6 | December, 1928..... | 14.8 |
| December, 1920..... | 4.9 | March, 1924..... | 8.6 | June, 1929..... | 17.3 |
| May, 1921..... | 4.9 | June, 1924..... | 8.6 | December, 1929..... | 17.3 |
| September, 1921..... | 4.9 | September, 1924..... | 8.6 | June, 1930..... | 18.5 |
| December, 1921..... | 4.9 | December, 1924..... | 8.6 | December, 1930..... | 18.5 |

In Table 4 is given the per cent of decrease in the cost of living in the 32 cities and in the United States from June, 1920, to December, 1930; from December, 1929, to December, 1930; and from June, 1930, to December, 1930. For the different cities the decrease from June, 1920, to December, 1930, ranged from 20.7 to 31.5 per cent, the average for the United States being 25.8 per cent. Between December, 1929, and December, 1930, the per cent of decrease in the cost of living in the 32 cities ranged from 3.6 to 9.1 per cent, and averaged 6.2 per cent for the United States.

During the 6-month period from June, 1930, to December, 1930, the decrease ranged from 1.2 to 6.2 per cent, and averaged 3.5 per cent for the United States.

TABLE 4.—PER CENT OF DECREASE IN COST OF LIVING IN SPECIFIED CITIES FROM JUNE, 1920, DECEMBER, 1929, AND JUNE, 1930, TO DECEMBER, 1930

| City | Per cent of decrease from— | | | City | Per cent of decrease from— | | |
|-------------------|-------------------------------|-----------------------------------|-------------------------------|-----------------------------|-------------------------------|-----------------------------------|-------------------------------|
| | June, 1920, to December, 1930 | December, 1929, to December, 1930 | June, 1930, to December, 1930 | | June, 1920, to December, 1930 | December, 1929, to December, 1930 | June, 1930, to December, 1930 |
| Atlanta..... | 28.8 | 7.9 | 3.2 | Mobile..... | 25.4 | 6.3 | 3.7 |
| Baltimore..... | 22.6 | 5.3 | 3.4 | New Orleans..... | 22.3 | 7.2 | 4.0 |
| Birmingham..... | 26.8 | 7.2 | 4.1 | New York..... | 23.6 | 5.4 | 2.4 |
| Boston..... | 24.4 | 5.5 | 2.4 | Norfolk..... | 25.8 | 5.0 | 1.8 |
| Buffalo..... | 23.5 | 5.9 | 3.7 | Philadelphia..... | 23.0 | 6.0 | 2.7 |
| Chicago..... | 24.4 | 6.6 | 4.1 | Pittsburgh..... | 22.7 | 6.5 | 3.9 |
| Cincinnati..... | 20.7 | 5.3 | 2.9 | Portland, Me..... | 24.3 | 5.2 | 2.7 |
| Cleveland..... | 24.6 | 4.6 | 4.1 | Portland, Oreg..... | 29.4 | 6.7 | 5.1 |
| Denver..... | 27.0 | 5.5 | 2.9 | Richmond..... | 24.0 | 4.9 | 2.8 |
| Detroit..... | 31.5 | 9.1 | 6.2 | St. Louis..... | 23.5 | 6.4 | 3.7 |
| Houston..... | 27.1 | 7.9 | 4.7 | San Francisco..... | 22.7 | 5.8 | 2.8 |
| Indianapolis..... | 26.2 | 6.7 | 4.6 | Savannah..... | 29.2 | 5.7 | 3.1 |
| Jacksonville..... | 27.5 | 5.4 | 2.5 | Seranton..... | 21.1 | 6.1 | 3.2 |
| Kansas City..... | 28.7 | 3.6 | 1.2 | Seattle..... | 24.8 | 6.1 | 4.2 |
| Los Angeles..... | 21.6 | 6.2 | 3.4 | Washington..... | 24.6 | 4.6 | 2.4 |
| Memphis..... | 24.6 | 5.2 | 3.7 | Average, United States..... | 25.8 | 6.2 | 3.5 |
| Minneapolis..... | 22.9 | 4.8 | 3.1 | | | | |

Retail food prices in each of the cost-of-living cities are reported regularly by mail by a representative number of grocers, meat dealers, bakers, and dairymen. Information on the retail prices of coal and wood is also obtained by mail from representative dealers, while the public utilities companies furnish figures on gas and electricity rates for family consumption. All other price data entering into the cost of living are secured by personal visits of agents of the bureau. Four quotations are secured on each article in all cities except New York where 5 quotations are taken. The number of rentals for each city ranges from 500 to 2,300, according to the population of the city. These rentals are secured from real estate agencies and are on unfurnished houses, flats, and apartments.

During the last 6-month period ending December, 1930, food prices decreased in all cities, the range being from 2.7 to 12.2 per cent, with an average of 7.2 per cent for the United States.

Clothing prices declined in all the cities during this same period, these decreases ranging from 0.5 to 10.6 per cent. For the United States the decline in clothing prices averaged 3.7 per cent.

For the 6-month period ending December, 1930, rents decreased in all cities except one, and the slight increase in this city (0.3 per cent) was caused by higher rentals during the winter months. The decreases in the other 31 cities varied from 0.1 to 9.1 per cent and averaged 2.1 per cent for the United States.

As of December, 1930, compared with June, 1930, fuel and light prices increased in 23 cities, decreased in 8 cities, and showed no change in 1 city, with an average increase of 1.3 per cent for the United States. The increases resulted from higher coal prices in December. In 3 cities the rate of electricity for domestic use was lowered. In Philadelphia the December, 1930, rate was \$0.077 per kilowatt-hour compared with \$0.079 in June, 1930. In Portland, Oreg., the December, 1930, rate was \$0.055 compared with \$0.058 in June, 1930. In Scranton the rate was reduced from \$0.09 in June, 1930, to \$0.08 in December, 1930. In 2 cities the gas rate decreased since June, 1930. In Seattle the rate for December, 1930, was lowered to \$1.80 per thousand cubic feet as compared with \$1.87 in June, 1930. In Minneapolis the gas rate decreased from \$1.13 per thousand cubic feet to \$1.05 in December, 1930.

Furniture and house-furnishing goods declined in all cities for the period between June, 1930, and December, 1930, the decreases ranging from 1.3 to 6.5 per cent, and averaging 3.8 per cent for the United States.

Miscellaneous items, which include street-car fare, motion pictures, newspapers, doctors' fees, medicine, hospital care, dental charges, spectacles, laundry, cleaning supplies, barber service, toilet articles and preparations, telephone rates, and tobacco prices, declined in 24 cities, increased in 6 cities, and showed no change in 2 cities. For the United States the decrease in miscellaneous items in the past 6-month period ending December, 1930, averaged 0.2 per cent. Between June, 1930, and December, 1930, street-car fare advanced in Kansas City, Mo., from 7½ cents (2 tokens for 15 cents) to 10 cents. Also during this same period the street-car fare in Washington, D. C., increased from 6½ cents (6 tokens for 40 cents) to 7½ cents (4 tokens for 30 cents). In New York city the Sunday papers advanced to

10 cents. Other slight increases in the miscellaneous items were caused by advances in laundry and tobacco prices.

Table 5 shows the per cent of change in the cost of living for 19 cities for each of 6 groups of items from *December, 1914*, to *December, 1930*.

TABLE 5.—CHANGES IN COST OF LIVING IN 19 CITIES, DECEMBER, 1914, TO DECEMBER, 1930

| City and date | Per cent of increase over December, 1914, in expenditure for— | | | | | | |
|------------------------|---|----------|------|----------------|------------------------|---------------|-----------|
| | Food | Clothing | Rent | Fuel and light | House-furnishing goods | Miscellaneous | All items |
| Baltimore, Md.: | | | | | | | |
| December, 1915..... | 14.1 | 2.7 | 10.2 | 0.5 | 5.6 | 11.4 | 11.4 |
| December, 1916..... | 20.9 | 24.0 | .9 | 9.1 | 26.4 | 18.5 | 18.5 |
| December, 1917..... | 64.4 | 52.1 | 3.0 | 25.5 | 60.8 | 51.3 | 51.3 |
| December, 1918..... | 96.4 | 107.7 | 13.8 | 46.0 | 122.3 | 78.7 | 84.7 |
| June, 1919..... | 91.1 | 128.9 | 16.8 | 37.1 | 134.6 | 82.8 | 84.0 |
| December, 1919..... | 92.5 | 177.4 | 25.8 | 48.1 | 167.0 | 99.4 | 98.4 |
| June, 1920..... | 110.9 | 191.3 | 41.6 | 57.6 | 191.8 | 111.4 | 114.3 |
| December, 1920..... | 75.6 | 159.5 | 49.5 | 79.0 | 181.9 | 112.9 | 96.8 |
| May, 1921..... | 43.4 | 123.2 | 63.0 | 70.9 | 147.5 | 111.8 | 77.4 |
| December, 1921..... | 46.9 | 88.6 | 64.7 | 85.5 | 123.7 | 108.6 | 73.2 |
| June, 1922..... | 39.9 | 78.9 | 65.4 | 84.8 | 113.3 | 104.4 | 67.6 |
| December, 1922..... | 46.1 | 80.5 | 66.9 | 94.9 | 116.6 | 102.6 | 70.9 |
| June, 1923..... | 46.5 | 81.4 | 69.6 | 91.6 | 127.5 | 103.8 | 72.0 |
| December, 1923..... | 50.6 | 81.8 | 71.9 | 93.5 | 130.2 | 105.2 | 74.8 |
| June, 1924..... | 44.0 | 78.3 | 72.4 | 84.8 | 129.4 | 109.9 | 71.9 |
| December, 1924..... | 53.0 | 76.2 | 72.2 | 88.7 | 125.7 | 107.1 | 74.8 |
| June, 1925..... | 57.7 | 76.0 | 72.0 | 85.3 | 122.8 | 111.0 | 77.3 |
| December, 1925..... | 66.2 | 76.2 | 72.2 | 90.9 | 122.1 | 111.6 | 81.2 |
| June, 1926..... | 62.2 | 73.0 | 71.3 | 89.8 | 112.8 | 111.2 | 78.4 |
| December, 1926..... | 63.0 | 72.5 | 70.6 | 87.3 | 110.5 | 112.3 | 78.6 |
| June, 1927..... | 56.7 | 71.3 | 69.9 | 82.2 | 106.9 | 112.9 | 75.3 |
| December, 1927..... | 56.7 | 68.4 | 68.0 | 85.5 | 104.8 | 112.3 | 74.5 |
| June, 1928..... | 52.9 | 68.1 | 66.7 | 82.0 | 103.2 | 118.7 | 73.7 |
| December, 1928..... | 51.9 | 68.3 | 65.7 | 87.3 | 102.0 | 120.9 | 73.9 |
| June, 1929..... | 53.8 | 67.5 | 65.2 | 80.7 | 100.4 | 119.8 | 73.8 |
| December, 1929..... | 56.7 | 67.2 | 63.4 | 86.1 | 99.4 | 120.2 | 75.1 |
| June, 1930..... | 47.2 | 65.9 | 62.4 | 80.9 | 95.6 | 127.0 | 71.6 |
| December, 1930..... | 36.9 | 58.1 | 61.3 | 85.6 | 86.0 | 126.5 | 65.8 |
| Boston, Mass.: | | | | | | | |
| December, 1915..... | 1.3 | 6.6 | 1.1 | 1.1 | 8.4 | 1.6 | 1.6 |
| December, 1916..... | 18.0 | 21.9 | .1 | 10.5 | 26.3 | 15.7 | 15.7 |
| December, 1917..... | 45.8 | 47.5 | 1.1 | 29.2 | 58.4 | 38.1 | 38.1 |
| December, 1918..... | 74.9 | 117.5 | 2.8 | 56.6 | 137.6 | 62.0 | 70.6 |
| June, 1919..... | 67.9 | 137.9 | 5.1 | 55.0 | 153.7 | 64.8 | 72.8 |
| December, 1919..... | 80.8 | 192.4 | 12.2 | 63.2 | 198.7 | 81.1 | 92.3 |
| June, 1920..... | 105.0 | 211.1 | 16.2 | 83.6 | 233.7 | 91.8 | 110.7 |
| December, 1920..... | 74.4 | 192.7 | 25.8 | 106.0 | 226.4 | 96.6 | 97.4 |
| May, 1921..... | 41.9 | 150.3 | 29.8 | 97.8 | 171.2 | 96.2 | 74.4 |
| December, 1921..... | 50.4 | 106.3 | 33.8 | 98.5 | 136.9 | 93.0 | 70.2 |
| June, 1922..... | 32.5 | 96.7 | 34.4 | 92.5 | 124.2 | 89.5 | 59.6 |
| December, 1922..... | 44.9 | 92.0 | 36.7 | 99.9 | 133.6 | 87.8 | 65.1 |
| June, 1923..... | 39.7 | 93.0 | 40.2 | 88.8 | 150.5 | 89.2 | 63.5 |
| December, 1923..... | 48.8 | 92.6 | 47.0 | 97.0 | 148.2 | 93.0 | 69.4 |
| June, 1924..... | 37.9 | 91.2 | 50.7 | 90.7 | 136.9 | 88.0 | 63.2 |
| December, 1924..... | 47.8 | 89.1 | 52.4 | 93.7 | 138.1 | 85.9 | 67.3 |
| June, 1925..... | 44.5 | 88.9 | 52.9 | 90.4 | 136.9 | 86.3 | 65.8 |
| December, 1925..... | 60.6 | 87.8 | 54.0 | 107.2 | 136.7 | 91.0 | 74.7 |
| June, 1926..... | 51.5 | 85.9 | 53.2 | 94.4 | 133.1 | 91.0 | 69.4 |
| December, 1926..... | 56.6 | 85.3 | 53.5 | 98.7 | 129.6 | 92.3 | 71.9 |
| June, 1927..... | 50.5 | 82.9 | 53.2 | 92.5 | 125.5 | 91.5 | 68.1 |
| December, 1927..... | 54.4 | 80.2 | 52.4 | 96.5 | 124.4 | 91.3 | 69.5 |
| June, 1928..... | 45.0 | 80.2 | 52.2 | 90.4 | 123.1 | 90.2 | 64.8 |
| December, 1928..... | 50.5 | 80.4 | 51.6 | 96.7 | 118.4 | 94.4 | 68.2 |
| June, 1929..... | 47.1 | 79.0 | 50.7 | 87.7 | 118.4 | 92.1 | 65.4 |
| December, 1929..... | 53.2 | 79.0 | 49.2 | 94.3 | 118.0 | 92.9 | 68.4 |
| June, 1930..... | 43.7 | 78.3 | 47.1 | 88.7 | 113.6 | 92.5 | 63.1 |
| December, 1930..... | 36.7 | 72.6 | 44.7 | 95.7 | 107.6 | 92.3 | 59.2 |

¹ Decrease.

TABLE 5.—CHANGES IN COST OF LIVING IN 19 CITIES, DECEMBER, 1914, TO DECEMBER, 1930—Continued

| City and date | Per cent of increase over December, 1914, in expenditure for— | | | | | |
|-------------------------|---|----------|-------|----------------|------------------------|---------------|
| | Food | Clothing | Rent | Fuel and light | House-furnishing goods | Miscellaneous |
| Buffalo, N. Y.: | | | | | | |
| December, 1915..... | 2.4 | 9.0 | 1.2 | 1.3 | 7.1 | 3.5 |
| December, 1916..... | 30.1 | 29.6 | 4.7 | 9.3 | 24.1 | 24.4 |
| December, 1917..... | 64.1 | 53.5 | 9.4 | 23.5 | 50.2 | 51.1 |
| December, 1918..... | 87.8 | 123.1 | 20.7 | 49.3 | 106.3 | 76.0 |
| June, 1919..... | 82.9 | 140.7 | 28.0 | 51.9 | 118.1 | 78.7 |
| December, 1919..... | 94.7 | 190.8 | 29.0 | 55.7 | 165.4 | 90.3 |
| June, 1920..... | 115.7 | 210.6 | 46.6 | 69.8 | 199.7 | 101.9 |
| December, 1920..... | 78.5 | 168.7 | 48.5 | 74.9 | 189.2 | 107.4 |
| May, 1921..... | 37.7 | 131.6 | 61.1 | 73.9 | 151.3 | 107.8 |
| December, 1921..... | 50.8 | 96.5 | 61.7 | 79.7 | 124.7 | 103.0 |
| June, 1922..... | 38.5 | 83.6 | 64.7 | 78.8 | 108.0 | 97.9 |
| December, 1922..... | 48.8 | 81.4 | 64.9 | 115.7 | 112.8 | 97.5 |
| June, 1923..... | 41.6 | 83.4 | 70.0 | 119.1 | 127.9 | 100.5 |
| December, 1923..... | 51.9 | 83.8 | 71.8 | 120.4 | 127.5 | 102.5 |
| June, 1924..... | 39.5 | 81.7 | 76.3 | 116.6 | 121.0 | 101.9 |
| December, 1924..... | 51.6 | 79.9 | 76.8 | 117.9 | 121.0 | 100.9 |
| June, 1925..... | 52.0 | 80.3 | 79.1 | 115.5 | 119.5 | 107.7 |
| December, 1925..... | 66.5 | 79.8 | 79.5 | 117.9 | 118.2 | 107.9 |
| June, 1926..... | 60.9 | 76.7 | 78.1 | 127.3 | 113.6 | 110.6 |
| December, 1926..... | 63.6 | 74.6 | 77.4 | 127.1 | 110.2 | 112.5 |
| June, 1927..... | 56.7 | 72.2 | 75.8 | 126.9 | 106.2 | 111.4 |
| December, 1927..... | 55.9 | 71.2 | 73.7 | 128.5 | 106.0 | 116.3 |
| June, 1928..... | 51.6 | 71.7 | 72.7 | 126.7 | 105.4 | 117.8 |
| December, 1928..... | 54.9 | 72.4 | 69.4 | 128.5 | 104.2 | 117.8 |
| June, 1929..... | 54.6 | 71.2 | 67.0 | 123.2 | 104.4 | 118.9 |
| December, 1929..... | 57.9 | 71.0 | 66.5 | 127.0 | 104.2 | 119.1 |
| June, 1930..... | 47.2 | 70.0 | 65.0 | 122.9 | 105.0 | 120.4 |
| December, 1930..... | 35.8 | 62.0 | 62.5 | 126.7 | 96.4 | 118.4 |
| Chicago, Ill.: | | | | | | |
| December, 1915..... | 2.7 | 7.5 | 1.1 | 1.9 | 5.9 | 3.0 |
| December, 1916..... | 25.2 | 24.2 | .7 | 6.6 | 20.0 | 19.5 |
| December, 1917..... | 53.4 | 50.6 | 1.4 | 19.3 | 47.5 | 41.8 |
| December, 1918..... | 78.7 | 138.9 | 2.6 | 37.1 | 108.9 | 58.7 |
| June, 1919..... | 73.3 | 157.1 | 8.0 | 35.7 | 126.9 | 61.7 |
| December, 1919..... | 93.1 | 224.0 | 14.0 | 40.1 | 176.0 | 84.3 |
| June, 1920..... | 120.0 | 205.3 | 35.1 | 62.4 | 215.9 | 87.5 |
| December, 1920..... | 70.5 | 158.6 | 48.9 | 83.5 | 205.8 | 96.5 |
| May, 1921..... | 41.9 | 122.7 | 78.2 | 65.3 | 162.4 | 98.5 |
| December, 1921..... | 48.3 | 74.3 | 83.9 | 69.4 | 133.7 | 94.5 |
| June, 1922..... | 41.6 | 63.0 | 87.4 | 55.4 | 108.5 | 87.9 |
| December, 1922..... | 44.8 | 67.5 | 88.9 | 65.6 | 120.4 | 86.7 |
| June, 1923..... | 45.1 | 72.2 | 92.1 | 54.9 | 133.1 | 87.7 |
| December, 1923..... | 52.5 | 76.0 | 95.4 | 59.3 | 132.9 | 88.1 |
| June, 1924..... | 47.9 | 72.6 | 104.4 | 53.0 | 122.2 | 90.7 |
| December, 1924..... | 56.2 | 67.8 | 105.8 | 56.1 | 121.9 | 90.7 |
| June, 1925..... | 61.4 | 65.8 | 105.6 | 53.9 | 118.1 | 93.9 |
| December, 1925..... | 69.4 | 65.3 | 104.4 | 65.8 | 118.5 | 93.9 |
| June, 1926..... | 67.2 | 62.7 | 99.5 | 55.4 | 112.4 | 94.3 |
| December, 1926..... | 69.6 | 61.9 | 96.7 | 64.4 | 109.2 | 95.7 |
| June, 1927..... | 68.2 | 58.7 | 93.9 | 57.2 | 105.2 | 96.7 |
| December, 1927..... | 62.4 | 53.8 | 90.0 | 59.2 | 104.4 | 99.7 |
| June, 1928..... | 59.4 | 53.3 | 86.8 | 51.2 | 96.0 | 98.5 |
| December, 1928..... | 62.4 | 52.1 | 83.6 | 56.5 | 97.2 | 101.7 |
| June, 1929..... | 63.0 | 51.5 | 80.3 | 50.7 | 97.4 | 101.7 |
| December, 1929..... | 67.3 | 49.2 | 77.2 | 56.7 | 97.0 | 102.9 |
| June, 1930..... | 56.9 | 47.7 | 75.1 | 51.5 | 92.1 | 104.7 |
| December, 1930..... | 45.6 | 37.2 | 71.1 | 54.8 | 82.7 | 104.5 |
| Cleveland, Ohio: | | | | | | |
| December, 1915..... | 1.4 | 2.0 | .1 | .3 | 4.7 | 1.4 |
| December, 1916..... | 26.4 | 18.0 | .9 | 10.0 | 19.7 | 19.1 |
| December, 1917..... | 54.3 | 43.7 | 11.3 | 26.8 | 47.8 | 42.9 |
| December, 1918..... | 79.4 | 102.6 | 16.5 | 51.9 | 102.4 | 67.1 |
| June, 1919..... | 79.7 | 125.2 | 21.8 | 47.9 | 117.0 | 74.7 |
| December, 1919..... | 92.9 | 171.2 | 39.9 | 62.9 | 165.5 | 85.9 |
| June, 1920..... | 118.7 | 185.1 | 47.3 | 90.3 | 186.5 | 117.0 |
| December, 1920..... | 71.7 | 156.0 | 80.0 | 94.5 | 176.8 | 134.0 |
| May, 1921..... | 37.4 | 124.0 | 88.1 | 89.6 | 133.6 | 129.6 |
| December, 1921..... | 40.9 | 85.8 | 81.2 | 103.8 | 100.8 | 123.2 |
| June, 1922..... | 34.6 | 72.4 | 69.6 | 102.2 | 87.8 | 110.7 |
| December, 1922..... | 41.1 | 70.9 | 74.0 | 116.3 | 104.8 | 109.4 |
| June, 1923..... | 42.1 | 77.6 | 73.8 | 151.6 | 129.6 | 108.1 |
| December, 1923..... | 43.6 | 79.6 | 78.7 | 147.0 | 129.3 | 113.1 |

1 Decrease.

TABLE 5.—CHANGES IN COST OF LIVING IN 19 CITIES, DECEMBER, 1914, TO DECEMBER, 1930—Continued

| City and date | Per cent of increase over December, 1914, in expenditure for— | | | | | | |
|-----------------------------------|---|----------|------------------|----------------|------------------------|---------------|-----------|
| | Food | Clothing | Rent | Fuel and light | House-furnishing goods | Miscellaneous | All items |
| Cleveland, Ohio—Continued. | | | | | | | |
| June, 1924 | 37.2 | 78.4 | 77.7 | 142.6 | 118.0 | 112.7 | 75.9 |
| December, 1924 | 46.2 | 72.9 | 78.6 | 144.1 | 113.4 | 112.1 | 78.1 |
| June, 1925 | 53.8 | 71.9 | 76.8 | 143.9 | 111.9 | 112.3 | 80.4 |
| December, 1925 | 58.3 | 71.9 | 75.6 | 168.8 | 113.4 | 111.5 | 82.7 |
| June, 1926 | 60.0 | 70.7 | 71.6 | 162.3 | 106.1 | 111.9 | 81.9 |
| December, 1926 | 58.7 | 68.3 | 71.8 | 170.7 | 105.3 | 112.7 | 81.5 |
| June, 1927 | 56.6 | 67.5 | 67.5 | 163.9 | 103.2 | 115.9 | 80.2 |
| December, 1927 | 55.1 | 66.0 | 66.3 | 164.2 | 97.9 | 115.9 | 79.0 |
| June, 1928 | 50.6 | 65.7 | 61.8 | 161.3 | 90.2 | 118.1 | 76.3 |
| December, 1928 | 48.5 | 63.9 | 60.5 | 163.7 | 89.2 | 119.0 | 75.4 |
| June, 1929 | 50.6 | 63.9 | 59.5 | 160.5 | 89.4 | 117.9 | 75.7 |
| December, 1929 | 47.0 | 63.2 | 58.9 | 163.1 | 88.8 | 118.3 | 74.3 |
| June, 1930 | 42.0 | 61.6 | 56.4 | 160.2 | 87.7 | 125.3 | 73.3 |
| December, 1930 | 29.5 | 52.1 | 55.3 | 162.5 | 75.5 | 124.2 | 66.2 |
| Detroit, Mich.: | | | | | | | |
| December, 1915 | 4.1 | 2.3 | 2.1 | 1.6 | 8.7 | 3.5 | 3.5 |
| December, 1916 | 26.5 | 18.9 | 17.5 | 9.9 | 24.5 | 22.3 | 22.3 |
| December, 1917 | 59.7 | 46.7 | 32.6 | 30.2 | 50.4 | 49.9 | 49.9 |
| December, 1918 | 82.5 | 113.8 | 39.0 | 47.6 | 107.3 | 72.6 | 78.0 |
| June, 1919 | 86.4 | 125.2 | 45.2 | 47.6 | 129.3 | 80.3 | 84.4 |
| December, 1919 | 99.5 | 181.8 | 60.2 | 57.9 | 172.6 | 100.1 | 107.9 |
| June, 1920 | 132.0 | 208.8 | 68.8 | 74.9 | 206.7 | 141.3 | 136.0 |
| December, 1920 | 75.6 | 176.1 | 108.1 | 104.5 | 184.0 | 144.0 | 118.6 |
| May, 1921 | 41.1 | 134.1 | 101.4 | 83.6 | 134.0 | 140.1 | 93.3 |
| December, 1921 | 47.3 | 92.5 | 91.1 | 77.5 | 96.8 | 130.7 | 82.4 |
| June, 1922 | 43.1 | 81.4 | 86.9 | 75.2 | 76.0 | 121.3 | 75.3 |
| December, 1922 | 44.8 | 79.9 | 92.1 | 95.5 | 81.1 | 121.5 | 78.2 |
| June, 1923 | 46.7 | 84.0 | 96.9 | 87.3 | 105.7 | 124.2 | 81.7 |
| December, 1923 | 47.5 | 85.3 | 107.5 | 84.9 | 105.3 | 128.4 | 84.7 |
| June, 1924 | 45.5 | 82.3 | 105.6 | 81.8 | 103.4 | 127.2 | 82.8 |
| December, 1924 | 49.7 | 76.1 | 103.8 | 82.7 | 98.1 | 125.4 | 82.2 |
| June, 1925 | 60.6 | 75.2 | 98.7 | 78.9 | 94.1 | 124.7 | 84.5 |
| December, 1925 | 68.1 | 74.8 | 97.7 | 101.1 | 93.7 | 122.5 | 87.8 |
| June, 1926 | 65.7 | 73.4 | 95.5 | 76.4 | 91.8 | 122.5 | 84.7 |
| December, 1926 | 63.8 | 71.0 | 95.5 | 86.8 | 88.7 | 121.6 | 84.1 |
| June, 1927 | 65.2 | 68.3 | 89.6 | 73.4 | 86.8 | 125.1 | 82.7 |
| December, 1927 | 57.6 | 64.1 | 84.1 | 76.9 | 84.7 | 128.3 | 79.0 |
| June, 1928 | 53.5 | 64.3 | 79.1 | 73.2 | 81.4 | 128.8 | 76.4 |
| December, 1928 | 55.7 | 62.5 | 78.2 | 77.0 | 81.2 | 131.1 | 77.4 |
| June, 1929 | 59.2 | 62.5 | 77.3 | 72.8 | 81.2 | 130.4 | 78.1 |
| December, 1929 | 57.9 | 61.7 | 77.8 | 77.5 | 79.4 | 130.6 | 77.8 |
| June, 1930 | 47.6 | 59.6 | 73.2 | 67.2 | 76.7 | 131.1 | 72.3 |
| December, 1930 | 32.6 | 50.2 | 60.0 | 71.0 | 66.5 | 125.1 | 61.6 |
| Houston, Tex.: | | | | | | | |
| December, 1915 | ¹ 1.0 | 2.7 | ¹ 2.3 | 1.9 | 6.1 | 1.3 | 1.3 |
| December, 1916 | 19.9 | 25.0 | ¹ 7.3 | 8.3 | 29.6 | 16.4 | 16.4 |
| December, 1917 | 57.3 | 51.5 | ¹ 7.7 | 22.7 | 62.3 | 44.9 | 44.9 |
| December, 1918 | 86.1 | 117.3 | ¹ 1.7 | 47.5 | 119.9 | 67.6 | 75.7 |
| June, 1919 | 85.7 | 134.8 | 1.9 | 37.6 | 144.5 | 72.3 | 80.2 |
| December, 1919 | 97.5 | 192.0 | 13.4 | 60.0 | 181.8 | 88.2 | 101.7 |
| June, 1920 | 107.5 | 211.3 | 25.3 | 55.1 | 213.9 | 90.4 | 112.2 |
| December, 1920 | 83.2 | 187.0 | 35.1 | 74.2 | 208.2 | 103.9 | 104.0 |
| May, 1921 | 45.6 | 143.4 | 39.4 | 46.0 | 173.7 | 100.8 | 79.7 |
| December, 1921 | 50.1 | 104.9 | 39.8 | 39.4 | 148.2 | 99.0 | 73.6 |
| June, 1922 | 38.9 | 98.4 | 38.5 | 32.9 | 133.7 | 94.0 | 65.9 |
| December, 1922 | 45.0 | 98.2 | 37.3 | 39.2 | 140.4 | 93.0 | 68.4 |
| June, 1923 | 41.2 | 100.4 | 36.7 | 36.5 | 150.2 | 91.5 | 67.2 |
| December, 1923 | 46.4 | 102.6 | 36.4 | 55.8 | 148.2 | 93.2 | 70.6 |
| June, 1924 | 37.3 | 100.8 | 34.9 | 45.0 | 143.7 | 89.5 | 65.0 |
| December, 1924 | 54.4 | 95.6 | 34.7 | 44.3 | 143.0 | 88.0 | 70.5 |
| June, 1925 | 57.3 | 95.6 | 34.3 | 38.7 | 142.5 | 87.8 | 71.1 |
| December, 1925 | 65.8 | 92.5 | 33.0 | 45.2 | 143.2 | 88.0 | 74.3 |
| June, 1926 | 55.0 | 91.2 | 32.9 | 38.2 | 138.6 | 87.4 | 69.2 |
| December, 1926 | 59.8 | 88.9 | 32.6 | 43.7 | 137.9 | 86.8 | 70.6 |
| June, 1927 | 50.4 | 86.8 | 32.2 | 32.8 | 136.7 | 86.6 | 66.3 |
| December, 1927 | 52.5 | 86.2 | 31.8 | 34.3 | 134.1 | 91.8 | 67.9 |
| June, 1928 | 45.6 | 85.8 | 30.4 | 29.2 | 132.0 | 89.7 | 64.1 |
| December, 1928 | 51.4 | 86.4 | 30.1 | 33.6 | 131.1 | 89.3 | 66.4 |
| June, 1929 | 51.1 | 84.7 | 27.5 | 29.1 | 129.0 | 92.1 | 66.1 |
| December, 1929 | 55.8 | 84.1 | 27.1 | 31.8 | 129.5 | 92.5 | 68.0 |
| June, 1930 | 43.0 | 82.8 | 25.7 | 25.3 | 127.2 | 92.5 | 62.3 |
| December, 1930 | 32.8 | 65.6 | 23.8 | 24.0 | 113.8 | 92.3 | 54.7 |

¹ Decrease.

TABLE 5.—CHANGES IN COST OF LIVING IN 19 CITIES, DECEMBER, 1914, TO DECEMBER, 1930—Continued

| City and date | Per cent of increase over December, 1914, in expenditure for— | | | | | | |
|-----------------------------|---|----------|-------|----------------|------------------------|---------------|-----------|
| | Food | Clothing | Rent | Fuel and light | House-furnishing goods | Miscellaneous | All items |
| Jacksonville, Fla.: | | | | | | | |
| December, 1915 | 10.3 | 10.5 | 16.9 | (2) | 15.1 | 1.3 | 1.3 |
| December, 1916 | 17.6 | 33.7 | 18.2 | 2.3 | 43.4 | 14.7 | 14.7 |
| December, 1917 | 50.8 | 71.9 | 18.7 | 15.1 | 73.7 | 41.6 | 41.9 |
| December, 1918 | 76.2 | 130.5 | 5.9 | 55.2 | 126.5 | 60.5 | 71.5 |
| June, 1919 | 74.2 | 139.8 | 9.7 | 49.2 | 140.0 | 65.9 | 77.5 |
| December, 1919 | 80.9 | 217.2 | 22.0 | 64.1 | 186.2 | 80.9 | 101.5 |
| June, 1920 | 90.1 | 234.0 | 28.9 | 72.6 | 224.2 | 102.8 | 116.5 |
| December, 1920 | 65.6 | 209.3 | 34.1 | 92.6 | 222.3 | 105.6 | 106.2 |
| May, 1921 | 32.6 | 167.5 | 36.5 | 80.7 | 182.7 | 107.5 | 85.8 |
| December, 1921 | 40.6 | 117.9 | 38.3 | 68.9 | 134.9 | 99.3 | 75.1 |
| June, 1922 | 30.6 | 99.9 | 35.3 | 58.9 | 115.3 | 95.5 | 65.7 |
| December, 1922 | 34.8 | 99.3 | 35.1 | 65.7 | 127.1 | 94.7 | 67.8 |
| June, 1923 | 32.0 | 101.1 | 34.3 | 63.6 | 137.9 | 95.3 | 67.7 |
| December, 1923 | 39.9 | 104.5 | 33.4 | 75.1 | 139.4 | 96.6 | 71.9 |
| June, 1924 | 30.2 | 102.7 | 33.3 | 72.1 | 132.9 | 95.0 | 67.3 |
| December, 1924 | 40.0 | 94.6 | 33.5 | 72.9 | 132.4 | 99.1 | 70.4 |
| June, 1925 | 41.8 | 94.0 | 33.5 | 69.3 | 134.0 | 99.3 | 70.9 |
| December, 1925 | 58.3 | 93.6 | 55.3 | 87.1 | 135.6 | 105.3 | 81.7 |
| June, 1926 | 53.4 | 93.4 | 66.6 | 95.3 | 134.7 | 105.5 | 81.8 |
| December, 1926 | 53.5 | 90.9 | 69.9 | 91.2 | 128.1 | 105.7 | 81.3 |
| June, 1927 | 45.0 | 88.0 | 57.2 | 87.8 | 126.0 | 104.5 | 75.7 |
| December, 1927 | 41.3 | 85.4 | 51.2 | 84.0 | 124.6 | 104.5 | 73.0 |
| June, 1928 | 36.4 | 85.0 | 32.3 | 74.4 | 119.2 | 105.1 | 68.3 |
| December, 1928 | 40.0 | 84.6 | 27.4 | 78.9 | 119.6 | 105.1 | 69.1 |
| June, 1929 | 37.4 | 83.9 | 19.8 | 77.1 | 117.8 | 105.1 | 66.9 |
| December, 1929 | 40.8 | 82.4 | 13.2 | 75.0 | 113.9 | 101.0 | 65.8 |
| June, 1930 | 31.9 | 80.4 | 3.2 | 70.6 | 110.5 | 102.4 | 61.0 |
| December, 1930 | 28.4 | 71.9 | 1.5 | 66.3 | 103.3 | 101.0 | 56.9 |
| Los Angeles, Calif.: | | | | | | | |
| December, 1915 | 14.1 | 2.8 | 12.7 | .4 | 6.3 | 11.9 | 11.9 |
| December, 1916 | .4 | 14.3 | 12.5 | 2.3 | 23.1 | 7.7 | 7.7 |
| December, 1917 | 33.4 | 45.0 | 1.6 | 10.4 | 56.4 | 28.9 | 28.9 |
| December, 1918 | 61.8 | 109.1 | 4.4 | 18.3 | 118.5 | 52.0 | 58.0 |
| June, 1919 | 60.7 | 123.3 | 8.7 | 18.6 | 134.2 | 59.1 | 65.1 |
| December, 1919 | 71.0 | 167.6 | 26.8 | 35.3 | 175.5 | 76.9 | 85.3 |
| June, 1920 | 90.8 | 184.5 | 42.6 | 53.5 | 202.2 | 86.6 | 101.7 |
| December, 1920 | 62.7 | 166.6 | 71.4 | 53.5 | 202.2 | 100.6 | 96.7 |
| May, 1921 | 33.2 | 127.4 | 85.3 | 52.7 | 156.6 | 96.8 | 78.7 |
| December, 1921 | 38.4 | 94.3 | 90.1 | 52.7 | 143.2 | 99.6 | 76.4 |
| June, 1922 | 30.6 | 81.3 | 95.6 | 39.1 | 128.8 | 103.8 | 72.5 |
| December, 1922 | 39.4 | 78.0 | 94.8 | 35.6 | 138.1 | 101.2 | 74.5 |
| June, 1923 | 36.2 | 82.5 | 97.7 | 33.7 | 153.6 | 100.8 | 75.1 |
| December, 1923 | 42.1 | 83.0 | 100.9 | 34.1 | 152.0 | 104.2 | 78.8 |
| June, 1924 | 35.2 | 81.4 | 99.4 | 33.6 | 136.1 | 105.4 | 75.1 |
| December, 1924 | 38.8 | 80.4 | 93.3 | 34.4 | 137.7 | 104.2 | 75.4 |
| June, 1925 | 44.1 | 79.0 | 83.6 | 34.0 | 133.9 | 108.9 | 76.9 |
| December, 1925 | 48.7 | 77.7 | 73.7 | 34.4 | 133.7 | 110.6 | 77.4 |
| June, 1926 | 39.9 | 75.7 | 67.4 | 34.1 | 126.7 | 104.7 | 71.2 |
| December, 1926 | 44.7 | 75.2 | 61.7 | 34.8 | 123.8 | 105.7 | 72.2 |
| June, 1927 | 40.4 | 74.0 | 59.9 | 61.0 | 120.4 | 108.2 | 71.5 |
| December, 1927 | 40.4 | 71.6 | 57.7 | 56.8 | 118.6 | 108.0 | 70.6 |
| June, 1928 | 34.9 | 71.4 | 54.1 | 56.5 | 110.7 | 107.2 | 67.4 |
| December, 1928 | 44.7 | 70.5 | 49.8 | 51.5 | 108.4 | 110.9 | 71.0 |
| June, 1929 | 41.2 | 69.3 | 45.2 | 50.6 | 106.5 | 111.1 | 68.9 |
| December, 1929 | 40.9 | 69.3 | 43.7 | 51.4 | 105.9 | 111.7 | 68.7 |
| June, 1930 | 30.9 | 68.1 | 39.8 | 45.6 | 103.6 | 110.4 | 63.8 |
| December, 1930 | 21.0 | 60.2 | 36.9 | 47.6 | 93.0 | 110.4 | 58.2 |
| Mobile, Ala.: | | | | | | | |
| December, 1915 | 1.0 | 2.0 | 1.9 | (2) | 4.1 | 1.4 | 1.4 |
| December, 1916 | 19.9 | 9.0 | 4.3 | 8.8 | 15.3 | 13.8 | 13.8 |
| December, 1917 | 57.3 | 38.8 | 3.6 | 27.1 | 42.8 | 43.2 | 43.2 |
| December, 1918 | 80.6 | 86.0 | 11.2 | 57.1 | 108.3 | 72.4 | 71.4 |
| June, 1919 | 83.6 | 94.0 | 11.9 | 66.6 | 113.9 | 75.3 | 76.6 |
| December, 1919 | 98.4 | 123.7 | 29.6 | 75.6 | 153.3 | 87.0 | 94.5 |
| June, 1920 | 110.5 | 137.4 | 34.6 | 86.3 | 177.9 | 100.3 | 107.0 |
| December, 1920 | 73.5 | 122.2 | 53.6 | 122.3 | 175.4 | 100.7 | 93.3 |
| May, 1921 | 39.1 | 90.6 | 53.3 | 102.1 | 140.7 | 96.9 | 70.8 |
| December, 1921 | 42.4 | 57.7 | 49.9 | 98.2 | 116.9 | 94.3 | 63.6 |
| June, 1922 | 33.2 | 49.7 | 47.7 | 84.4 | 97.8 | 87.5 | 55.3 |
| December, 1922 | 39.1 | 50.8 | 43.8 | 96.4 | 97.9 | 91.0 | 58.8 |

¹ Decrease² No change.

TABLE 5.—CHANGES IN COST OF LIVING IN 19 CITIES, DECEMBER, 1914, TO DECEMBER, 1930—Continued

| City and date | Per cent of increase over December, 1914, in expenditure for— | | | | | | |
|--------------------------------|---|----------|------|------------------|-------------------------|----------------|-----------|
| | Food | Clothing | Rent | Fuel and light | House-furnish-ing goods | Miscel-laneous | All items |
| Mobile, Ala.—Continued. | | | | | | | |
| June, 1923 | 37.7 | 51.8 | 42.5 | 93.3 | 114.0 | 89.8 | 58.6 |
| December, 1923 | 44.7 | 55.4 | 42.6 | 98.1 | 114.8 | 91.3 | 62.6 |
| June, 1924 | 33.4 | 54.3 | 41.4 | 91.4 | 109.3 | 93.7 | 58.0 |
| December, 1924 | 49.7 | 53.4 | 40.9 | 90.2 | 107.2 | 94.3 | 63.9 |
| June, 1925 | 50.3 | 52.0 | 40.1 | 85.6 | 104.3 | 95.5 | 63.9 |
| December, 1925 | 59.0 | 49.4 | 40.4 | 89.1 | 103.7 | 102.0 | 68.5 |
| June, 1926 | 53.1 | 49.5 | 39.7 | 94.6 | 100.8 | 102.2 | 66.2 |
| December, 1926 | 58.0 | 48.8 | 40.5 | 97.7 | 96.4 | 102.2 | 68.1 |
| June, 1927 | 52.0 | 47.6 | 40.4 | 90.4 | 97.2 | 102.4 | 65.2 |
| December, 1927 | 51.1 | 47.6 | 41.9 | 92.1 | 97.2 | 104.0 | 65.5 |
| June, 1928 | 45.4 | 47.5 | 41.0 | 90.0 | 93.3 | 107.3 | 63.5 |
| December, 1928 | 49.6 | 48.1 | 41.6 | 92.1 | 92.3 | 108.3 | 65.7 |
| June, 1929 | 47.5 | 47.2 | 41.0 | 84.0 | 87.9 | 108.1 | 64.0 |
| December, 1929 | 49.0 | 47.2 | 40.6 | 85.8 | 87.3 | 108.3 | 64.8 |
| June, 1930 | 39.6 | 46.8 | 38.9 | 81.2 | 85.6 | 108.1 | 60.3 |
| December, 1930 | 33.0 | 40.0 | 36.3 | 58.6 | 73.5 | 107.5 | 54.4 |
| New York, N. Y.: | | | | | | | |
| December, 1915 | 1.3 | 4.8 | 1.1 | 1.1 | 8.4 | 2.0 | 2.0 |
| December, 1916 | 16.3 | 22.3 | 1.1 | 11.0 | 27.6 | 14.9 | 14.9 |
| December, 1917 | 55.3 | 54.2 | 2.6 | 19.9 | 56.5 | 44.7 | 44.7 |
| December, 1918 | 82.6 | 131.3 | 6.5 | 45.5 | 126.5 | 70.0 | 77.3 |
| June, 1919 | 75.3 | 151.6 | 13.4 | 45.4 | 136.6 | 75.1 | 79.2 |
| December, 1919 | 91.0 | 219.7 | 23.4 | 50.6 | 172.9 | 95.8 | 103.8 |
| June, 1920 | 105.3 | 241.4 | 32.4 | 60.1 | 205.1 | 111.9 | 119.2 |
| December, 1920 | 73.5 | 201.8 | 38.1 | 87.5 | 185.9 | 116.3 | 101.4 |
| May, 1921 | 42.5 | 159.5 | 42.2 | 95.9 | 156.5 | 117.6 | 81.7 |
| December, 1921 | 51.8 | 117.8 | 53.7 | 90.7 | 132.0 | 116.9 | 79.3 |
| June, 1922 | 40.0 | 103.0 | 55.7 | 89.0 | 118.3 | 112.8 | 70.7 |
| December, 1922 | 49.5 | 98.3 | 56.7 | 95.7 | 121.6 | 111.6 | 74.2 |
| June, 1923 | 44.4 | 100.7 | 59.4 | 89.1 | 130.3 | 110.8 | 72.6 |
| December, 1923 | 52.0 | 102.7 | 62.4 | 94.2 | 131.5 | 113.5 | 77.3 |
| June, 1924 | 41.1 | 100.7 | 64.5 | 88.8 | 121.4 | 115.0 | 72.5 |
| December, 1924 | 50.0 | 97.7 | 67.1 | 93.3 | 119.4 | 116.7 | 76.5 |
| June, 1925 | 48.9 | 97.5 | 67.8 | 91.0 | 110.6 | 116.9 | 75.8 |
| December, 1925 | 62.6 | 95.9 | 69.5 | 126.0 | 110.4 | 118.2 | 83.2 |
| June, 1926 | 56.0 | 94.7 | 69.5 | 95.9 | 106.6 | 117.3 | 78.6 |
| December, 1926 | 59.1 | 93.7 | 70.2 | 96.1 | 106.0 | 117.5 | 80.0 |
| June, 1927 | 54.0 | 92.9 | 70.2 | 92.2 | 102.5 | 119.0 | 77.8 |
| December, 1927 | 57.5 | 91.4 | 70.2 | 96.0 | 102.9 | 118.8 | 79.1 |
| June, 1928 | 47.5 | 90.3 | 69.3 | 94.4 | 97.8 | 118.6 | 74.4 |
| December, 1928 | 53.0 | 88.4 | 68.6 | 96.3 | 96.4 | 118.8 | 76.3 |
| June, 1929 | 50.6 | 87.8 | 67.6 | 92.0 | 96.2 | 121.4 | 75.5 |
| December, 1929 | 54.9 | 85.9 | 66.1 | 95.1 | 95.4 | 122.9 | 77.1 |
| June, 1930 | 43.7 | 85.5 | 65.1 | 85.7 | 90.5 | 123.3 | 71.7 |
| December, 1930 | 35.9 | 82.2 | 63.1 | 90.9 | 85.5 | 123.7 | 67.5 |
| Norfolk, Va.: | | | | | | | |
| December, 1915 | .8 | .8 | .1 | (²) | .6 | .6 | .6 |
| December, 1916 | 22.4 | 6.0 | 1.7 | 17.0 | 8.7 | 14.7 | 14.7 |
| December, 1917 | 63.9 | 31.6 | 1.7 | 33.3 | 39.0 | 45.2 | 45.2 |
| December, 1918 | 86.2 | 94.6 | 39.0 | 74.6 | 105.5 | 76.8 | 80.7 |
| June, 1919 | 89.8 | 104.8 | 46.5 | 69.7 | 110.7 | 83.7 | 87.1 |
| December, 1919 | 91.5 | 158.4 | 63.3 | 89.9 | 143.6 | 97.5 | 107.0 |
| June, 1920 | 107.6 | 176.5 | 70.8 | 110.6 | 165.0 | 108.4 | 122.2 |
| December, 1920 | 76.3 | 153.6 | 90.8 | 128.9 | 160.5 | 106.3 | 109.0 |
| May, 1921 | 45.4 | 121.6 | 94.6 | 97.3 | 129.0 | 106.3 | 88.1 |
| December, 1921 | 43.4 | 90.2 | 93.4 | 91.6 | 106.1 | 109.3 | 79.2 |
| June, 1922 | 33.5 | 77.6 | 88.1 | 87.7 | 88.4 | 100.8 | 69.5 |
| December, 1922 | 38.6 | 73.2 | 77.2 | 106.5 | 89.1 | 99.6 | 69.9 |
| June, 1923 | 36.9 | 79.1 | 73.0 | 102.1 | 101.0 | 102.2 | 71.1 |
| December, 1923 | 40.7 | 80.8 | 67.0 | 96.9 | 103.8 | 104.4 | 72.4 |
| June, 1924 | 33.1 | 78.6 | 64.2 | 94.4 | 100.1 | 103.0 | 68.4 |
| December, 1924 | 46.0 | 75.4 | 59.4 | 99.1 | 102.1 | 103.4 | 72.1 |
| June, 1925 | 47.9 | 74.7 | 58.4 | 96.7 | 96.0 | 103.4 | 71.9 |
| December, 1925 | 60.8 | 74.0 | 53.0 | 107.9 | 96.8 | 103.8 | 76.4 |
| June, 1926 | 56.0 | 73.0 | 52.1 | 102.1 | 93.7 | 100.5 | 73.1 |
| December, 1926 | 58.7 | 72.8 | 49.2 | 109.6 | 90.4 | 103.7 | 74.6 |
| June, 1927 | 54.7 | 71.1 | 45.9 | 96.8 | 88.9 | 114.9 | 73.9 |
| December, 1927 | 55.5 | 70.9 | 43.6 | 98.2 | 88.5 | 112.5 | 73.4 |
| June, 1928 | 50.2 | 71.6 | 41.7 | 95.6 | 85.7 | 114.6 | 71.5 |
| December, 1928 | 55.0 | 71.8 | 39.6 | 100.3 | 86.1 | 118.2 | 74.1 |
| June, 1929 | 51.9 | 71.3 | 38.8 | 94.3 | 85.2 | 118.0 | 72.3 |
| December, 1929 | 55.8 | 70.4 | 37.1 | 92.7 | 83.0 | 119.3 | 73.5 |
| June, 1930 | 43.3 | 68.7 | 36.0 | 87.3 | 80.4 | 118.6 | 67.9 |
| December, 1930 | 36.7 | 66.2 | 33.3 | 97.0 | 73.5 | 119.0 | 64.8 |

¹ Decrease.² No change.³ The decrease is due primarily to the change in consumption and price accompanying the change from manufactured to natural gas.

TABLE 5.—CHANGES IN COST OF LIVING IN 19 CITIES, DECEMBER, 1914, TO DECEMBER, 1930—Continued

| City and date | Per cent of increase over December, 1914, in expenditure for— | | | | | |
|---------------------------|---|----------|------|----------------|------------------------|---------------|
| | Food | Clothing | Rent | Fuel and light | House-furnishing goods | Miscellaneous |
| Philadelphia, Pa.: | | | | | | |
| December, 1915..... | 0.3 | 3.6 | 10.3 | 10.8 | 6.9 | 1.2 |
| December, 1916..... | 18.9 | 16.0 | 1.7 | 5.4 | 19.9 | 14.7 |
| December, 1917..... | 54.4 | 51.3 | 2.6 | 21.5 | 49.8 | 43.8 |
| December, 1918..... | 80.7 | 116.2 | 8.0 | 47.9 | 107.7 | 67.5 |
| June, 1919..... | 75.5 | 135.9 | 11.3 | 43.3 | 117.8 | 71.2 |
| December, 1919..... | 87.2 | 190.3 | 16.7 | 51.3 | 162.8 | 88.6 |
| June, 1920..... | 101.7 | 219.6 | 28.6 | 66.8 | 187.4 | 102.8 |
| December, 1920..... | 68.1 | 183.5 | 38.0 | 96.0 | 183.4 | 122.3 |
| May, 1921..... | 37.8 | 144.7 | 44.2 | 85.6 | 135.5 | 119.2 |
| December, 1921..... | 43.9 | 104.6 | 48.1 | 92.0 | 101.6 | 116.2 |
| June, 1922..... | 38.1 | 89.5 | 49.6 | 85.7 | 90.0 | 112.3 |
| December, 1922..... | 43.4 | 87.6 | 52.9 | 93.0 | 96.9 | 110.7 |
| June, 1923..... | 42.7 | 87.6 | 58.1 | 89.9 | 110.8 | 112.4 |
| December, 1923..... | 45.1 | 88.2 | 66.9 | 102.2 | 111.6 | 112.0 |
| June, 1924..... | 39.3 | 85.5 | 72.4 | 91.7 | 102.3 | 110.7 |
| December, 1924..... | 46.4 | 84.4 | 75.3 | 94.8 | 100.5 | 117.6 |
| June, 1925..... | 51.3 | 83.8 | 76.0 | 87.0 | 98.9 | 117.6 |
| December, 1925..... | 62.0 | 83.6 | 77.1 | 100.5 | 97.9 | 117.6 |
| June, 1926..... | 56.6 | 82.5 | 77.1 | 98.3 | 97.7 | 120.6 |
| December, 1926..... | 61.2 | 80.3 | 77.3 | 98.5 | 92.3 | 121.5 |
| June, 1927..... | 53.8 | 79.2 | 75.3 | 89.4 | 88.6 | 120.8 |
| December, 1927..... | 55.9 | 77.4 | 72.1 | 90.5 | 87.7 | 121.2 |
| June, 1928..... | 51.3 | 76.5 | 67.1 | 81.5 | 85.4 | 121.4 |
| December, 1928..... | 51.7 | 74.0 | 63.8 | 87.3 | 83.9 | 120.3 |
| June, 1929..... | 50.0 | 72.6 | 59.9 | 85.4 | 84.1 | 121.2 |
| December, 1929..... | 56.1 | 71.2 | 56.5 | 86.3 | 84.7 | 121.2 |
| June, 1930..... | 42.6 | 69.7 | 54.0 | 86.5 | 83.2 | 121.4 |
| December, 1930..... | 34.4 | 64.9 | 51.2 | 95.8 | 75.3 | 120.7 |
| Portland, Me.: | | | | | | |
| December, 1915..... | 12.0 | 2.1 | .2 | .4 | 6.2 | 1.4 |
| December, 1916..... | 18.6 | 9.7 | .6 | 11.4 | 20.9 | 13.8 |
| December, 1917..... | 49.8 | 32.8 | 2.4 | 28.9 | 43.5 | 38.0 |
| December, 1918..... | 86.8 | 85.8 | 2.5 | 67.7 | 110.8 | 65.6 |
| June, 1919..... | 80.6 | 103.8 | 5.7 | 58.4 | 126.4 | 72.1 |
| December, 1919..... | 91.9 | 148.5 | 10.7 | 69.8 | 163.7 | 83.2 |
| June, 1920..... | 114.5 | 165.9 | 14.5 | 83.9 | 190.3 | 89.4 |
| December, 1920..... | 78.7 | 147.8 | 20.0 | 113.5 | 191.2 | 94.3 |
| May, 1921..... | 46.7 | 116.3 | 23.1 | 96.8 | 152.2 | 94.1 |
| December, 1921..... | 54.8 | 88.1 | 26.6 | 99.5 | 123.6 | 91.2 |
| June, 1922..... | 39.9 | 76.7 | 24.8 | 96.1 | 108.1 | 88.2 |
| December, 1922..... | 49.1 | 74.8 | 30.7 | 94.7 | 114.2 | 88.0 |
| June, 1923..... | 45.3 | 77.3 | 27.3 | 94.9 | 129.7 | 88.0 |
| December, 1923..... | 52.3 | 76.7 | 31.7 | 100.0 | 130.2 | 89.3 |
| June, 1924..... | 44.1 | 75.4 | 27.4 | 96.2 | 126.7 | 87.9 |
| December, 1924..... | 52.4 | 75.0 | 28.8 | 99.6 | 126.0 | 87.2 |
| June, 1925..... | 52.2 | 75.0 | 25.5 | 95.8 | 126.0 | 87.8 |
| December, 1925..... | 64.5 | 74.0 | 24.4 | 100.3 | 126.9 | 87.6 |
| June, 1926..... | 58.7 | 71.7 | 23.7 | 100.5 | 121.7 | 88.4 |
| December, 1926..... | 63.3 | 70.3 | 23.8 | 102.9 | 120.8 | 88.6 |
| June, 1927..... | 59.4 | 67.6 | 23.6 | 98.6 | 118.8 | 88.6 |
| December, 1927..... | 60.0 | 66.8 | 23.0 | 102.2 | 118.4 | 89.0 |
| June, 1928..... | 54.2 | 66.5 | 21.5 | 98.4 | 112.5 | 88.8 |
| December, 1928..... | 57.0 | 64.8 | 20.9 | 102.4 | 112.3 | 97.3 |
| June, 1929..... | 54.3 | 65.8 | 19.8 | 94.1 | 112.3 | 97.3 |
| December, 1929..... | 55.7 | 65.6 | 19.8 | 101.9 | 112.1 | 97.1 |
| June, 1930..... | 45.9 | 65.4 | 19.9 | 96.9 | 111.9 | 97.1 |
| December, 1930..... | 38.5 | 60.4 | 19.3 | 99.9 | 105.8 | 95.9 |
| Portland, Oreg.: | | | | | | |
| December, 1915..... | 13.8 | 3.0 | 10.9 | 1.0 | 2.9 | 13.1 |
| December, 1916..... | 9.8 | 15.8 | 19.6 | 3.4 | 18.0 | 6.1 |
| December, 1917..... | 42.2 | 44.4 | 22.2 | 20.2 | 54.5 | 31.2 |
| December, 1918..... | 70.6 | 96.6 | 12.3 | 30.9 | 109.0 | 57.9 |
| June, 1919..... | 67.1 | 115.5 | 20.2 | 31.3 | 122.1 | 62.3 |
| December, 1919..... | 81.6 | 142.1 | 27.7 | 42.3 | 145.1 | 71.6 |
| June, 1920..... | 107.1 | 158.6 | 33.2 | 46.9 | 183.9 | 79.7 |
| December, 1920..... | 60.9 | 122.1 | 36.9 | 65.9 | 179.9 | 81.1 |
| May, 1921..... | 26.0 | 91.2 | 42.9 | 67.1 | 148.0 | 81.1 |
| December, 1921..... | 33.1 | 65.3 | 43.3 | 59.4 | 121.9 | 80.0 |
| June, 1922..... | 26.5 | 53.2 | 43.3 | 50.3 | 101.9 | 78.5 |
| December, 1922..... | 34.3 | 54.9 | 43.6 | 65.7 | 102.9 | 79.4 |
| June, 1923..... | 29.5 | 61.3 | 42.5 | 61.3 | 109.8 | 75.8 |
| December, 1923..... | 35.1 | 61.8 | 42.7 | 67.1 | 109.0 | 79.6 |
| June, 1924..... | 28.5 | 61.1 | 43.3 | 55.5 | 102.2 | 73.0 |
| December, 1924..... | 36.1 | 59.2 | 42.9 | 62.4 | 102.2 | 74.4 |

¹ Decrease.

TABLE 5.—CHANGES IN COST OF LIVING IN 19 CITIES, DECEMBER, 1914, TO DECEMBER, 1930—Continued

| City and date | Per cent of increase over December, 1914, in expenditure for— | | | | | | |
|---|---|----------|------------------|-------------------|-------------------------|------------------|------------------|
| | Food | Clothing | Rent | Fuel and light | House-furnish-ing goods | Miscel-laneous | All items |
| Portland, Oreg.—Continued. | | | | | | | |
| June, 1925..... | 40.6 | 57.6 | 40.9 | 52.2 | 98.6 | 73.0 | 55.8 |
| December, 1925..... | 43.2 | 57.0 | 40.1 | 60.0 | 100.6 | 73.0 | 56.9 |
| June, 1926..... | 38.6 | 56.5 | 37.9 | 50.9 | 95.2 | 74.2 | 54.6 |
| December, 1926..... | 40.6 | 54.0 | 33.5 | 61.9 | 90.7 | 76.6 | 55.1 |
| June, 1927..... | 39.2 | 53.2 | 30.3 | 56.9 | 87.8 | 76.4 | 53.7 |
| December, 1927..... | 37.5 | 51.1 | 26.9 | 65.7 | 86.1 | 77.1 | 52.8 |
| June, 1928..... | 36.6 | 50.8 | 20.9 | 51.6 | 80.5 | 76.4 | 50.5 |
| December, 1928..... | 41.8 | 49.4 | 16.4 | 63.0 | 80.1 | 78.0 | 52.4 |
| June, 1929..... | 41.4 | 48.4 | 11.0 | 51.4 | 79.7 | 77.3 | 50.7 |
| December, 1929..... | 43.7 | 47.8 | 8.2 | 61.8 | 81.0 | 77.7 | 51.6 |
| June, 1930..... | 34.2 | 44.8 | 5.4 | 49.7 | 78.6 | 86.6 | 49.1 |
| December, 1930..... | 17.8 | 38.4 | 2.4 | 55.5 | 69.7 | 85.1 | 41.5 |
| San Francisco and Oakland, Calif.: | | | | | | | |
| December, 1915..... | ¹ 4.3 | 2.5 | ¹ 7 | ¹ 1 | 6.0 | ¹ 1.7 | ¹ 1.7 |
| December, 1916..... | 9.6 | 14.5 | ¹ 2.5 | 4.6 | 21.7 | 8.3 | 8.3 |
| December, 1917..... | 35.9 | 43.6 | ¹ 4.0 | 14.4 | 48.2 | 28.6 | 28.6 |
| December, 1918..... | 66.2 | 109.0 | ¹ 3.9 | 30.1 | 103.4 | 50.5 | 57.8 |
| June, 1919..... | 63.3 | 134.6 | ¹ 3.5 | 28.9 | 116.6 | 61.0 | 65.6 |
| December, 1919..... | 74.2 | 170.4 | 4.7 | 41.3 | 143.8 | 74.7 | 87.8 |
| June, 1920..... | 93.9 | 191.0 | 9.4 | 47.2 | 180.1 | 79.6 | 96.0 |
| December, 1920..... | 64.9 | 175.9 | 15.0 | 66.3 | 175.6 | 84.8 | 85.1 |
| May, 1921..... | 33.3 | 140.9 | 21.7 | 63.3 | 143.9 | 84.4 | 66.7 |
| December, 1921..... | 40.4 | 106.3 | 25.8 | 65.3 | 113.9 | 86.8 | 63.6 |
| June, 1922..... | 31.1 | 90.7 | 29.4 | 59.5 | 104.4 | 83.7 | 56.8 |
| December, 1922..... | 38.8 | 85.4 | 30.0 | 52.5 | 105.4 | 84.2 | 58.8 |
| June, 1923..... | 34.2 | 92.1 | 33.4 | 42.6 | 116.7 | 79.4 | 57.6 |
| December, 1923..... | 42.3 | 94.4 | 36.0 | 48.8 | 116.9 | 81.2 | 62.1 |
| June, 1924..... | 35.0 | 91.5 | 38.0 | 49.9 | 113.4 | 73.2 | 57.3 |
| December, 1924..... | 42.1 | 90.5 | 39.4 | 53.5 | 114.7 | 72.7 | 60.1 |
| June, 1925..... | 47.6 | 90.5 | 40.1 | 54.3 | 115.1 | 72.9 | 62.2 |
| December, 1925..... | 53.3 | 89.7 | 40.0 | 50.8 | 115.7 | 74.6 | 64.7 |
| June, 1926..... | 44.3 | 88.4 | 39.6 | 48.5 | 105.6 | 75.3 | 60.7 |
| December, 1926..... | 48.3 | 85.6 | 39.5 | 51.0 | 104.6 | 75.3 | 61.7 |
| June, 1927..... | 45.4 | 83.7 | 38.7 | 47.1 | 103.8 | 77.8 | 60.5 |
| December, 1927..... | 46.1 | 82.4 | 37.3 | 48.6 | 103.4 | 79.2 | 60.7 |
| June, 1928..... | 41.5 | 82.9 | 35.7 | 45.9 | 102.0 | 79.6 | 58.8 |
| December, 1928..... | 48.0 | 83.4 | 33.5 | 47.5 | 99.0 | 83.2 | 61.7 |
| June, 1929..... | 45.1 | 82.8 | 31.9 | 43.7 | 97.8 | 83.4 | 60.1 |
| December, 1929..... | 48.7 | 81.5 | 30.4 | 40.3 | 97.4 | 82.5 | 60.8 |
| June, 1930..... | 40.4 | 77.9 | 28.1 | ² 28.7 | 100.6 | 80.9 | 55.9 |
| December, 1930..... | 32.0 | 72.0 | 26.1 | 32.0 | 91.6 | 82.0 | 51.5 |
| Savannah, Ga.: | | | | | | | |
| December, 1915..... | 1.3 | .8 | ¹ 1.4 | ¹ 1.3 | 1.8 | 1.2 | 1.2 |
| December, 1916..... | 17.6 | 24.1 | ¹ 3.0 | ¹ 1.7 | 12.8 | 14.6 | 14.6 |
| December, 1917..... | 50.8 | 56.6 | ¹ 4.3 | 21.1 | 50.7 | 42.5 | 42.5 |
| December, 1918..... | 76.2 | 133.6 | 5.9 | 37.5 | 128.6 | 67.3 | 75.0 |
| June, 1919..... | 74.2 | 146.3 | 10.2 | 25.5 | 136.5 | 71.2 | 79.8 |
| December, 1919..... | 80.9 | 195.9 | 22.0 | 52.2 | 182.1 | 82.0 | 98.7 |
| June, 1920..... | 91.7 | 212.1 | 33.5 | 65.3 | 207.2 | 83.8 | 109.4 |
| December, 1920..... | 63.5 | 171.5 | 58.6 | 94.4 | 206.6 | 91.5 | 98.7 |
| May, 1921..... | 28.7 | 133.2 | 61.9 | 74.2 | 175.9 | 93.0 | 77.6 |
| December, 1921..... | 33.7 | 84.2 | 60.9 | 66.1 | 133.7 | 87.4 | 66.2 |
| June, 1922..... | 22.7 | 71.7 | 57.8 | 55.2 | 120.1 | 81.1 | 56.8 |
| December, 1922..... | 27.6 | 76.2 | 52.7 | 68.3 | 123.8 | 79.5 | 59.2 |
| June, 1923..... | 22.6 | 81.3 | 49.5 | 61.9 | 135.9 | 77.4 | 57.9 |
| December, 1923..... | 25.0 | 80.9 | 47.5 | 64.1 | 133.4 | 76.7 | 58.2 |
| June, 1924..... | 17.5 | 79.1 | 45.3 | 59.7 | 130.6 | 77.5 | 54.8 |
| December, 1924..... | 25.1 | 75.8 | 41.0 | 62.2 | 128.7 | 77.5 | 56.3 |
| June, 1925..... | 31.5 | 75.1 | 39.7 | 59.1 | 128.2 | 77.5 | 57.9 |
| December, 1925..... | 44.9 | 73.7 | 38.6 | 62.9 | 128.9 | 79.1 | 62.9 |
| June, 1926..... | 39.1 | 73.7 | 38.0 | 61.9 | 126.6 | 79.5 | 60.6 |
| December, 1926..... | 39.7 | 72.0 | 38.1 | 68.4 | 123.9 | 79.0 | 60.5 |
| June, 1927..... | 35.4 | 69.8 | 37.7 | 58.3 | 121.7 | 80.6 | 58.3 |
| December, 1927..... | 35.3 | 68.6 | 37.1 | 59.9 | 121.9 | 80.8 | 58.1 |
| June, 1928..... | 31.1 | 68.8 | 35.9 | 56.9 | 120.8 | 81.9 | 56.6 |
| December, 1928..... | 35.0 | 69.0 | 33.9 | 59.6 | 118.8 | 87.0 | 59.1 |
| June, 1929..... | 33.9 | 68.2 | 32.7 | 55.8 | 117.9 | 83.8 | 57.2 |
| December, 1929..... | 35.1 | 67.7 | 28.3 | 56.1 | 117.2 | 84.5 | 57.2 |
| June, 1930..... | 25.2 | 66.0 | 27.0 | 54.2 | 113.7 | 84.7 | 53.1 |
| December, 1930..... | 17.7 | 61.4 | 19.6 | 56.2 | 110.1 | 83.8 | 48.3 |

¹ Decrease.² The decrease is due primarily to the change in consumption and price accompanying the change from manufactured to natural gas.

TABLE 5.—CHANGES IN COST OF LIVING IN 19 CITIES, DECEMBER, 1914, TO DECEMBER, 1930—Continued

| City and date | Per cent of increase over December, 1914, in expenditure for— | | | | | | |
|---------------------------|---|----------|------|----------------|------------------------|---------------|-----------|
| | Food | Clothing | Rent | Fuel and light | House-furnishing goods | Miscellaneous | All items |
| Seattle, Wash.: | | | | | | | |
| December, 1915..... | 12.8 | 1.2 | 12.4 | 10.2 | 8.5 | 11.0 | 11.0 |
| December, 1916..... | 8.5 | 11.3 | 15.4 | 2.9 | 27.4 | 7.4 | 7.4 |
| December, 1917..... | 38.7 | 36.4 | 1.6 | 23.9 | 52.3 | 31.1 | 31.1 |
| December, 1918..... | 72.5 | 88.0 | 44.3 | 51.8 | 141.5 | 58.5 | 69.9 |
| June, 1919..... | 69.3 | 110.2 | 51.5 | 51.8 | 154.4 | 71.4 | 76.9 |
| December, 1919..... | 80.9 | 154.5 | 71.5 | 63.8 | 201.0 | 86.8 | 97.7 |
| June, 1920..... | 102.3 | 173.9 | 74.8 | 65.8 | 221.2 | 90.4 | 110.5 |
| December, 1920..... | 54.1 | 160.5 | 76.7 | 78.7 | 216.4 | 95.5 | 94.1 |
| May, 1921..... | 27.1 | 128.7 | 74.8 | 78.7 | 177.2 | 105.5 | 80.2 |
| December, 1921..... | 30.5 | 88.7 | 69.2 | 69.0 | 149.9 | 102.6 | 71.5 |
| June, 1922..... | 30.0 | 78.0 | 64.7 | 64.0 | 137.3 | 97.6 | 67.0 |
| December, 1922..... | 33.9 | 74.2 | 63.1 | 59.6 | 136.1 | 96.4 | 66.7 |
| June, 1923..... | 31.0 | 76.7 | 62.3 | 58.0 | 143.9 | 96.6 | 66.4 |
| December, 1923..... | 35.8 | 77.6 | 62.9 | 59.1 | 144.2 | 96.6 | 68.5 |
| June, 1924..... | 33.1 | 76.2 | 64.0 | 56.8 | 140.7 | 94.6 | 66.7 |
| December, 1924..... | 35.8 | 74.4 | 63.7 | 59.6 | 141.1 | 96.4 | 67.8 |
| June, 1925..... | 43.7 | 74.6 | 64.7 | 57.8 | 141.6 | 96.4 | 70.5 |
| December, 1925..... | 47.3 | 74.8 | 63.7 | 58.1 | 142.1 | 97.0 | 71.7 |
| June, 1926..... | 42.3 | 74.8 | 62.6 | 49.4 | 139.4 | 97.0 | 69.4 |
| December, 1926..... | 41.6 | 73.1 | 60.3 | 61.2 | 137.5 | 97.6 | 69.1 |
| June, 1927..... | 43.0 | 71.9 | 59.0 | 59.3 | 136.8 | 98.4 | 69.4 |
| December, 1927..... | 37.9 | 69.5 | 56.9 | 59.8 | 134.7 | 98.2 | 66.9 |
| June, 1928..... | 36.9 | 68.8 | 55.5 | 57.1 | 133.5 | 97.4 | 65.8 |
| December, 1928..... | 40.8 | 68.3 | 54.1 | 62.9 | 132.6 | 97.4 | 67.1 |
| June, 1929..... | 43.7 | 66.6 | 52.4 | 62.1 | 131.7 | 98.8 | 67.7 |
| December, 1929..... | 45.9 | 66.6 | 52.1 | 65.8 | 132.6 | 98.8 | 68.7 |
| June, 1930..... | 38.1 | 64.6 | 50.1 | 65.5 | 132.4 | 98.6 | 65.4 |
| December, 1930..... | 22.5 | 59.7 | 47.8 | 64.0 | 128.0 | 97.6 | 58.4 |
| Washington, D. C.: | | | | | | | |
| December, 1915..... | .6 | 3.7 | 11.5 | (2) | 6.3 | .4 | 1.0 |
| December, 1916..... | 15.7 | 23.2 | 13.7 | 7.3 | 30.5 | 15.3 | 14.6 |
| December, 1917..... | 61.1 | 60.1 | 13.4 | 24.9 | 72.1 | 44.3 | 47.3 |
| December, 1918..... | 90.9 | 112.6 | 11.5 | 40.9 | 127.4 | 55.9 | 73.8 |
| April, 1919..... | 84.6 | 109.5 | 11.4 | 41.8 | 126.0 | 57.4 | 71.2 |
| November, 1919..... | 93.3 | 165.9 | 5.4 | 42.8 | 159.3 | 62.7 | 87.6 |
| June, 1920..... | 108.4 | 184.0 | 15.6 | 53.7 | 196.4 | 68.2 | 101.3 |
| December, 1920..... | 79.0 | 151.1 | 24.7 | 68.0 | 194.0 | 73.9 | 87.8 |
| May, 1921..... | 47.4 | 115.9 | 28.8 | 57.1 | 149.0 | 72.0 | 67.1 |
| December, 1921..... | 51.1 | 87.1 | 30.4 | 49.9 | 122.4 | 75.8 | 63.0 |
| June, 1922..... | 44.3 | 77.5 | 31.4 | 44.5 | 108.1 | 73.7 | 57.6 |
| December, 1922..... | 49.2 | 74.8 | 32.6 | 55.1 | 112.6 | 72.0 | 59.5 |
| June, 1923..... | 48.8 | 78.9 | 33.9 | 51.2 | 129.0 | 72.5 | 60.9 |
| December, 1923..... | 52.3 | 81.2 | 34.3 | 47.0 | 128.8 | 74.9 | 63.2 |
| June, 1924..... | 43.7 | 78.9 | 35.7 | 42.9 | 124.5 | 75.0 | 59.2 |
| December, 1924..... | 53.6 | 75.8 | 36.7 | 44.9 | 125.2 | 76.5 | 63.1 |
| June, 1925..... | 57.2 | 75.4 | 37.7 | 39.8 | 119.8 | 76.5 | 64.0 |
| December, 1925..... | 65.6 | 73.5 | 40.3 | 48.7 | 115.0 | 75.4 | 67.3 |
| June, 1926..... | 63.3 | 73.3 | 38.6 | 41.7 | 112.6 | 75.0 | 65.5 |
| December, 1926..... | 66.3 | 70.9 | 37.4 | 45.7 | 107.5 | 75.0 | 66.0 |
| June, 1927..... | 55.0 | 69.2 | 36.4 | 39.3 | 104.4 | 73.6 | 60.5 |
| December, 1927..... | 57.9 | 67.0 | 33.8 | 40.3 | 103.2 | 73.8 | 60.8 |
| June, 1928..... | 55.5 | 67.0 | 32.7 | 38.8 | 102.2 | 73.6 | 59.7 |
| December, 1928..... | 58.2 | 65.2 | 31.0 | 41.0 | 99.4 | 73.8 | 60.2 |
| June, 1929..... | 58.4 | 64.4 | 30.5 | 38.0 | 100.0 | 74.0 | 60.0 |
| December, 1929..... | 57.4 | 62.3 | 30.0 | 39.7 | 100.2 | 74.3 | 59.2 |
| June, 1930..... | 49.1 | 60.5 | 29.7 | 36.2 | 100.4 | 73.8 | 55.5 |
| December, 1930..... | 41.3 | 55.4 | 28.7 | 36.6 | 93.0 | 76.8 | 51.8 |

¹ Decrease.² No change.

Table 6 shows the changes in the cost of living from December, 1917, to December, 1930, for 13 cities. The table is constructed in the same manner as the preceding one and differs from it only in the base period and in the length of time covered.

TABLE 6.—CHANGES IN COST OF LIVING IN 13 CITIES, DECEMBER, 1917, TO DECEMBER, 1930

| City and date | Per cent of increase over December, 1917, in expenditure for— | | | | | | |
|--------------------------|---|------------------|------|-------------------|-------------------------|----------------|-----------|
| | Food | Clothing | Rent | Fuel and light | House-furnish-ing goods | Miscel-laneous | All items |
| Atlanta, Ga.: | | | | | | | |
| December, 1918..... | 19.0 | 29.1 | 14.0 | 17.0 | 24.9 | 14.8 | 19.7 |
| June, 1919..... | 18.0 | 40.7 | 14.5 | 17.9 | 30.1 | 21.5 | 23.3 |
| December, 1919..... | 27.9 | 66.9 | 32.6 | 30.8 | 49.9 | 31.7 | 37.9 |
| June, 1920..... | 34.0 | 80.5 | 40.4 | 61.0 | 65.0 | 34.6 | 46.7 |
| December, 1920..... | 12.8 | 56.5 | 73.1 | 66.8 | 58.4 | 39.7 | 38.5 |
| May, 1921..... | ¹ 8.9 | 35.2 | 78.8 | 56.1 | 38.0 | 40.5 | 25.2 |
| December, 1921..... | ¹ 7.2 | 8.3 | 75.4 | 43.7 | 23.0 | 39.7 | 18.7 |
| June, 1922..... | ¹ 10.5 | .4 | 68.1 | 39.1 | 15.2 | 34.5 | 13.7 |
| December, 1922..... | ¹ 8.9 | 2.8 | 62.7 | 57.6 | 17.4 | 34.1 | 15.1 |
| June, 1923..... | ¹ 10.3 | 5.9 | 61.4 | 42.7 | 23.9 | 32.8 | 14.2 |
| December, 1923..... | ¹ 6.3 | 6.9 | 62.2 | 39.3 | 23.5 | 33.3 | 16.0 |
| June, 1924..... | ¹ 10.2 | 5.7 | 60.1 | 32.0 | 20.4 | 33.8 | 13.6 |
| December, 1924..... | ¹ 5.5 | 4.9 | 56.9 | 33.1 | 20.4 | 33.7 | 14.9 |
| June, 1925..... | ¹ 1.2 | 4.5 | 55.5 | 26.2 | 19.9 | 34.9 | 16.2 |
| December, 1925..... | 6.5 | 4.3 | 49.3 | 34.7 | 18.8 | 35.6 | 19.0 |
| June, 1926..... | 4.5 | 3.9 | 44.4 | 36.6 | 17.4 | 34.0 | 17.3 |
| December, 1926..... | 4.3 | 2.9 | 42.1 | 46.0 | 15.5 | 33.9 | 17.4 |
| June, 1927..... | 4.1 | 2.1 | 41.5 | 31.7 | 14.6 | 33.9 | 16.2 |
| December, 1927..... | 1.3 | .2 | 39.5 | 38.0 | 15.9 | 31.5 | 14.3 |
| June, 1928..... | ¹ 1.0 | .2 | 38.9 | 31.8 | 15.2 | 35.6 | 13.9 |
| December, 1928..... | 2.9 | .4 | 38.2 | 36.3 | 24.9 | 35.3 | 15.6 |
| June, 1929..... | .3 | .3 | 37.5 | 28.4 | 14.6 | 33.0 | 13.6 |
| December, 1929..... | .1 | 1.6 | 35.9 | 31.6 | 14.1 | 34.2 | 13.5 |
| June, 1930..... | ¹ 7.9 | ¹ 2.8 | 32.8 | ¹ 11.6 | 11.2 | 31.8 | 7.9 |
| December, 1930..... | ¹ 13.1 | ¹ 6.4 | 30.8 | 11.6 | 8.0 | 30.5 | 4.5 |
| Birmingham, Ala.: | | | | | | | |
| December, 1918..... | 17.7 | 23.9 | 8.1 | 22.8 | 19.4 | 13.8 | 17.0 |
| June, 1919..... | 18.3 | 29.8 | 12.8 | 31.9 | 20.2 | 16.3 | 19.8 |
| December, 1919..... | 26.5 | 57.6 | 34.9 | 39.8 | 45.1 | 26.8 | 34.3 |
| June, 1920..... | 36.4 | 66.4 | 40.3 | 55.3 | 55.6 | 28.7 | 41.9 |
| December, 1920..... | 11.9 | 45.1 | 68.5 | 74.2 | 48.1 | 30.4 | 33.3 |
| May, 1921..... | ¹ 9.1 | 24.8 | 77.4 | 54.3 | 32.0 | 33.8 | 22.1 |
| December, 1921..... | ¹ 8.5 | ¹ 4 | 70.9 | 44.1 | 12.0 | 35.5 | 16.2 |
| June, 1922..... | ¹ 13.1 | ¹ 6.1 | 67.0 | 25.0 | 3.3 | 30.4 | 10.7 |
| December, 1922..... | ¹ 9.9 | ¹ 1.7 | 62.3 | 49.9 | 8.9 | 29.6 | 13.2 |
| June, 1923..... | ¹ 9.9 | 1.8 | 63.1 | 40.7 | 17.8 | 28.5 | 13.6 |
| December, 1923..... | ¹ 6.6 | 3.8 | 67.9 | 50.2 | 19.7 | 27.2 | 16.0 |
| June, 1924..... | ¹ 12.6 | 3.2 | 68.6 | 40.5 | 14.3 | 27.2 | 13.1 |
| December, 1924..... | ¹ 3.1 | 1.6 | 68.6 | 45.7 | 14.9 | 27.3 | 16.8 |
| June, 1925..... | ¹ 9 | 1.5 | 68.3 | 33.8 | 15.5 | 27.2 | 16.9 |
| December, 1925..... | 4.5 | 1.3 | 68.0 | 41.4 | 15.5 | 27.8 | 19.2 |
| June, 1926..... | 1.5 | 1.9 | 66.5 | 41.0 | 13.5 | 26.9 | 17.5 |
| December, 1926..... | 1.8 | ¹ 1.9 | 65.8 | 51.3 | 12.4 | 26.9 | 17.8 |
| June, 1927..... | ¹ 3.1 | ¹ 3.1 | 64.5 | 39.6 | 11.2 | 26.4 | 14.8 |
| December, 1927..... | ¹ 1.3 | ¹ 4.1 | 61.7 | 45.9 | 14.1 | 28.5 | 15.7 |
| June, 1928..... | ¹ 4.7 | ¹ 4.3 | 59.4 | 37.1 | 13.9 | 28.2 | 13.7 |
| December, 1928..... | ¹ 2.2 | ¹ 4.2 | 54.8 | 43.4 | 12.3 | 27.2 | 14.2 |
| June, 1929..... | ¹ 3.9 | ¹ 4.3 | 50.8 | 35.5 | 10.6 | 26.1 | 12.3 |
| December, 1929..... | ¹ 2.8 | ¹ 5.0 | 40.8 | 38.8 | 10.5 | 27.2 | 11.8 |
| June, 1930..... | ¹ 8.9 | ¹ 5.9 | 35.9 | 33.2 | 9.3 | 26.4 | 8.2 |
| December, 1930..... | ¹ 14.0 | ¹ 9.1 | 23.5 | 38.5 | 2.7 | 25.1 | 3.8 |
| Cincinnati, Ohio: | | | | | | | |
| December, 1918..... | 15.3 | 33.8 | .2 | 10.0 | 25.7 | 20.4 | 17.3 |
| June, 1919..... | 18.1 | 48.3 | .8 | 5.6 | 30.5 | 21.8 | 21.1 |
| December, 1919..... | 22.9 | 84.2 | 12.8 | 11.0 | 51.1 | 40.3 | 35.2 |
| June, 1920..... | 38.7 | 96.7 | 13.6 | 26.9 | 75.5 | 47.6 | 47.1 |
| December, 1920..... | 10.3 | 73.5 | 25.0 | 34.1 | 66.7 | 53.4 | 34.7 |
| May, 1921..... | ¹ 7.4 | 49.0 | 27.6 | 15.7 | 39.7 | 52.3 | 21.7 |
| December, 1921..... | ¹ 8.3 | 13.9 | 28.5 | 42.4 | 22.3 | 47.3 | 15.3 |
| June, 1922..... | ¹ 8.9 | 4.9 | 31.0 | 35.2 | 15.8 | 44.0 | 12.7 |
| December, 1922..... | ¹ 10.4 | 5.5 | 35.2 | 61.0 | 17.2 | 42.7 | 13.8 |
| June, 1923..... | ¹ 9.3 | 8.8 | 40.7 | 51.9 | 24.3 | 42.8 | 15.5 |
| December, 1923..... | ¹ 6.7 | 9.2 | 45.6 | 53.0 | 26.2 | 43.3 | 17.7 |
| June, 1924..... | ¹ 10.2 | 6.4 | 49.3 | 39.3 | 23.2 | 46.9 | 16.3 |
| December, 1924..... | ¹ 8.3 | 1.5 | 50.1 | 44.5 | 23.2 | 52.3 | 17.6 |
| June, 1925..... | ¹ 9 | 1.2 | 51.2 | 61.1 | 23.4 | 55.0 | 22.1 |
| December, 1925..... | 3.9 | ¹ 1.1 | 51.8 | 70.4 | 21.3 | 49.9 | 23.0 |
| June, 1926..... | 2.7 | ¹ 1.2 | 54.8 | 62.2 | 17.7 | 50.5 | 22.6 |
| December, 1926..... | 3.1 | ¹ 1.7 | 55.9 | 83.6 | 16.9 | 50.5 | 23.8 |
| June, 1927..... | 3.9 | ¹ 2.3 | 56.8 | 66.7 | 16.1 | 50.0 | 23.3 |
| December, 1927..... | ¹ 1.0 | ¹ 3.9 | 57.9 | 66.9 | 16.6 | 50.0 | 21.3 |

¹ Decrease.² The decrease is due primarily to the change in consumption and price accompanying the change from manufactured to natural gas.

TABLE 6.—CHANGES IN COST OF LIVING IN 13 CITIES, DECEMBER, 1917, TO DECEMBER, 1930—Continued

| City and date | Per cent of increase over December, 1917, in expenditure for— | | | | | | |
|------------------------------------|---|----------|------|----------------|-------------------------|----------------|-----------|
| | Food | Clothing | Rent | Fuel and light | House-furnish-ing goods | Miscel-laneous | All items |
| Cincinnati, Ohio—Continued. | | | | | | | |
| June, 1928..... | 10.5 | 13.9 | 57.1 | 61.1 | 15.4 | 49.7 | 21.0 |
| December, 1928..... | .4 | 15.5 | 57.1 | 61.6 | 14.7 | 49.6 | 21.2 |
| June, 1929..... | 2.5 | 15.8 | 56.9 | 60.8 | 13.6 | 49.7 | 21.8 |
| December, 1929..... | 4.5 | 16.4 | 56.7 | 70.9 | 13.1 | 51.2 | 23.1 |
| June, 1930..... | 11.2 | 17.1 | 54.5 | 63.6 | 11.6 | 51.5 | 20.1 |
| December, 1930..... | 18.0 | 18.7 | 52.8 | 69.7 | 8.7 | 49.4 | 16.6 |
| Denver, Colo.: | | | | | | | |
| December, 1918..... | 20.0 | 40.1 | 12.8 | 8.1 | 22.6 | 14.8 | 20.7 |
| June, 1919..... | 20.7 | 53.2 | 21.8 | 8.4 | 31.3 | 17.7 | 25.3 |
| December, 1919..... | 26.0 | 82.1 | 33.5 | 19.6 | 46.3 | 32.3 | 38.2 |
| June, 1920..... | 41.5 | 96.8 | 51.9 | 22.3 | 60.2 | 35.4 | 50.3 |
| December, 1920..... | 7.9 | 78.3 | 69.8 | 47.1 | 58.9 | 38.8 | 38.7 |
| May, 1921..... | 13.1 | 53.9 | 76.9 | 37.5 | 42.5 | 42.8 | 26.9 |
| December, 1921..... | 18.8 | 27.7 | 82.6 | 39.7 | 27.9 | 43.1 | 24.5 |
| June, 1922..... | 14.2 | 15.3 | 84.8 | 32.8 | 20.4 | 38.1 | 18.8 |
| December, 1922..... | 19.0 | 16.6 | 86.9 | 40.7 | 21.2 | 37.6 | 21.6 |
| June, 1923..... | 11.5 | 16.9 | 85.4 | 30.4 | 26.1 | 37.1 | 19.9 |
| December, 1923..... | 18.7 | 17.9 | 88.9 | 37.2 | 27.0 | 36.8 | 22.1 |
| June, 1924..... | 13.5 | 16.1 | 84.4 | 19.7 | 23.8 | 35.1 | 17.8 |
| December, 1924..... | 17.8 | 15.1 | 84.0 | 25.4 | 24.2 | 35.6 | 20.2 |
| June, 1925..... | 15.3 | 14.5 | 82.5 | 27.0 | 24.8 | 35.6 | 21.1 |
| December, 1925..... | 11.3 | 13.1 | 78.5 | 37.4 | 25.2 | 35.6 | 22.5 |
| June, 1926..... | 13.8 | 12.4 | 71.9 | 25.3 | 24.2 | 35.1 | 19.7 |
| December, 1926..... | 13.0 | 11.8 | 65.5 | 38.1 | 23.5 | 36.6 | 20.4 |
| June, 1927..... | 12.8 | 10.1 | 61.2 | 20.8 | 22.9 | 36.1 | 18.4 |
| December, 1927..... | 16.9 | 8.9 | 58.3 | 32.9 | 21.2 | 34.2 | 16.6 |
| June, 1928..... | 18.6 | 8.4 | 55.8 | 26.9 | 20.5 | 33.4 | 14.9 |
| December, 1928..... | 16.3 | 8.2 | 54.1 | 39.3 | 19.8 | 33.8 | 16.3 |
| June, 1929..... | 17.4 | 8.0 | 52.3 | 19.0 | 17.4 | 38.8 | 15.6 |
| December, 1929..... | 16.8 | 7.9 | 51.1 | 29.2 | 16.0 | 38.7 | 16.1 |
| June, 1930..... | 11.0 | 7.0 | 49.4 | 22.6 | 15.3 | 38.0 | 13.0 |
| December, 1930..... | 19.9 | 5.5 | 47.8 | 27.4 | 12.4 | 37.6 | 9.7 |
| Indianapolis, Ind.: | | | | | | | |
| December, 1918..... | 17.8 | 32.4 | 1.6 | 19.8 | 18.9 | 21.9 | 19.1 |
| June, 1919..... | 16.4 | 40.1 | 2.6 | 16.7 | 24.8 | 26.8 | 21.1 |
| December, 1919..... | 28.2 | 73.8 | 11.6 | 27.3 | 48.4 | 38.2 | 36.5 |
| June, 1920..... | 49.0 | 87.9 | 18.9 | 45.6 | 67.5 | 50.4 | 50.2 |
| December, 1920..... | 11.0 | 72.3 | 32.9 | 60.3 | 63.0 | 47.5 | 37.6 |
| May, 1921..... | 10.1 | 45.8 | 37.4 | 49.4 | 35.3 | 47.4 | 23.9 |
| December, 1921..... | 18.4 | 16.2 | 43.8 | 42.5 | 22.5 | 46.2 | 19.3 |
| June, 1922..... | 19.9 | 7.9 | 41.3 | 44.9 | 13.7 | 45.4 | 16.4 |
| December, 1922..... | 11.1 | 8.6 | 44.1 | 73.4 | 16.7 | 46.7 | 18.8 |
| June, 1923..... | 18.0 | 11.6 | 44.6 | 54.9 | 23.2 | 46.1 | 19.4 |
| December, 1923..... | 16.5 | 13.4 | 47.1 | 41.5 | 24.0 | 39.2 | 20.6 |
| June, 1924..... | 10.0 | 11.9 | 46.5 | 38.2 | 21.4 | 51.5 | 19.3 |
| December, 1924..... | 14.9 | 10.4 | 46.7 | 41.5 | 21.5 | 53.3 | 21.4 |
| June, 1925..... | 12.3 | 9.8 | 44.1 | 33.9 | 20.6 | 53.8 | 21.5 |
| December, 1925..... | 4.4 | 7.5 | 41.7 | 44.9 | 21.8 | 54.1 | 21.2 |
| June, 1926..... | 2.6 | 7.4 | 38.3 | 33.9 | 20.6 | 51.6 | 21.9 |
| December, 1926..... | 2.9 | 5.4 | 36.5 | 47.8 | 19.9 | 51.8 | 22.3 |
| June, 1927..... | 3.5 | 5.9 | 34.6 | 34.6 | 18.0 | 52.3 | 21.4 |
| December, 1927..... | 11.5 | 4.3 | 33.4 | 34.2 | 17.5 | 52.6 | 19.2 |
| June, 1928..... | 11.8 | 4.3 | 31.3 | 29.2 | 13.7 | 52.3 | 18.2 |
| December, 1928..... | 11.3 | 3.2 | 30.4 | 32.3 | 12.6 | 52.0 | 18.5 |
| June, 1929..... | 11.8 | 3.0 | 28.4 | 26.1 | 12.7 | 52.3 | 17.7 |
| December, 1929..... | 2.0 | 2.4 | 27.9 | 31.0 | 11.7 | 52.0 | 18.8 |
| June, 1930..... | 12.7 | 1.2 | 25.9 | 24.8 | 9.0 | 51.8 | 16.1 |
| December, 1930..... | 14.2 | 11.6 | 23.9 | 30.2 | 5.6 | 50.4 | 10.8 |
| Kansas City, Mo.: | | | | | | | |
| December, 1918..... | 17.3 | 40.7 | 5.4 | 18.0 | 31.1 | 15.6 | 19.6 |
| June, 1919..... | 15.1 | 44.8 | 6.7 | 9.6 | 37.9 | 20.8 | 20.6 |
| December, 1919..... | 24.5 | 89.9 | 26.0 | 27.5 | 61.8 | 31.5 | 38.2 |
| June, 1920..... | 44.9 | 104.5 | 29.4 | 35.2 | 73.0 | 37.1 | 51.0 |
| December, 1920..... | 10.2 | 76.3 | 63.9 | 55.1 | 68.7 | 40.3 | 39.5 |
| May, 1921..... | 18.3 | 52.3 | 65.0 | 43.3 | 50.0 | 40.4 | 27.3 |
| December, 1921..... | 16.6 | 24.1 | 69.7 | 42.6 | 26.2 | 37.6 | 22.5 |
| June, 1922..... | 13.5 | 15.9 | 59.4 | 36.3 | 11.6 | 32.3 | 15.0 |
| December, 1922..... | 12.0 | 14.6 | 61.4 | 40.2 | 12.1 | 33.3 | 16.2 |
| June, 1923..... | 12.5 | 14.5 | 53.7 | 36.1 | 22.5 | 33.8 | 15.3 |
| December, 1923..... | 10.2 | 15.2 | 56.8 | 36.7 | 22.6 | 36.2 | 17.2 |
| June, 1924..... | 12.7 | 13.3 | 49.5 | 34.5 | 16.8 | 35.3 | 14.3 |

¹ Decrease.² The decrease is due primarily to the change in consumption and price accompanying the change from manufactured to natural gas.

TABLE 6.—CHANGES IN COST OF LIVING IN 13 CITIES, DECEMBER, 1917, TO DECEMBER, 1930—Continued

| City and date | Per cent of increase over December, 1917, in expenditure for— | | | | | | |
|------------------------------------|---|------------------|------------------|-------------------|-------------------------|----------------|-----------|
| | Food | Clothing | Rent | Fuel and light | House-furnish-ing goods | Miscel-laneous | All items |
| Kansas City, Mo.—Continued. | | | | | | | |
| December, 1924..... | ¹ 7.7 | 12.0 | 46.2 | 32.9 | 16.1 | 34.3 | 15.3 |
| June, 1925..... | ¹ 3.9 | 11.4 | 40.6 | 32.8 | 15.6 | 36.4 | 16.3 |
| December, 1925..... | 2.0 | 9.2 | 39.5 | 32.3 | 14.1 | 36.3 | 18.0 |
| June, 1926..... | .5 | 8.7 | 35.9 | 29.4 | 12.8 | 36.3 | 16.6 |
| December, 1926..... | ¹ 1.7 | 6.3 | 34.1 | 33.5 | 10.8 | 36.3 | 15.2 |
| June, 1927..... | ¹ 2.2 | 5.4 | 29.1 | 29.8 | 8.6 | 36.6 | 14.0 |
| December, 1927..... | ¹ 6.8 | 3.7 | 28.3 | 29.0 | 7.7 | 36.5 | 11.9 |
| June, 1928..... | ¹ 5.4 | 2.7 | 24.8 | 28.7 | 6.8 | 35.0 | 11.2 |
| December, 1928..... | ¹ 6.0 | 2.9 | 23.8 | 26.8 | 5.6 | 37.8 | 11.3 |
| June, 1929..... | ¹ 5.3 | 2.4 | 21.1 | 26.3 | 5.1 | 37.0 | 11.0 |
| December, 1929..... | ¹ 2.2 | 1.8 | 20.1 | 23.9 | 3.4 | 36.9 | 11.7 |
| June, 1930..... | ¹ 8.6 | 1.5 | 19.4 | 24.0 | 2.1 | 36.9 | 9.0 |
| December, 1930..... | ¹ 15.8 | 1.0 | 19.8 | 22.0 | ¹ 1.1 | 44.3 | 7.7 |
| Memphis, Tenn.: | | | | | | | |
| December, 1918..... | 20.3 | 27.7 | (³) | 26.8 | 25.4 | 16.1 | 18.3 |
| June, 1919..... | 22.7 | 38.3 | 8.2 | 23.4 | 30.7 | 20.9 | 23.3 |
| December, 1919..... | 28.4 | 66.2 | 23.1 | 34.1 | 53.2 | 28.3 | 35.2 |
| June, 1920..... | 38.8 | 77.5 | 35.9 | 49.7 | 67.1 | 38.8 | 46.4 |
| December, 1920..... | 7.0 | 59.0 | 66.2 | 105.4 | 53.9 | 43.2 | 39.3 |
| May, 1921..... | ¹ 14.2 | 36.1 | 79.7 | 64.5 | 29.9 | 42.9 | 26.7 |
| December, 1921..... | ¹ 11.2 | 15.3 | 77.3 | 67.1 | 14.7 | 42.3 | 23.2 |
| June, 1922..... | ¹ 15.1 | 7.3 | 74.8 | 56.3 | 6.8 | 37.8 | 18.2 |
| December, 1922..... | ¹ 14.9 | 6.7 | 72.5 | 68.5 | 12.2 | 37.4 | 18.6 |
| June, 1923..... | ¹ 13.9 | 9.8 | 72.3 | 62.8 | 23.2 | 38.1 | 19.9 |
| December, 1923..... | ¹ 11.2 | 11.0 | 72.5 | 65.0 | 23.4 | 37.3 | 21.0 |
| June, 1924..... | ¹ 17.1 | 9.5 | 72.4 | 66.2 | 18.6 | 36.3 | 18.2 |
| December, 1924..... | ¹ 9.2 | 6.4 | 68.6 | 66.2 | 20.1 | 37.4 | 20.4 |
| June, 1925..... | ¹ 7.1 | 5.9 | 66.4 | 55.7 | 20.1 | 38.5 | 20.5 |
| December, 1925..... | ¹ 2.0 | 4.7 | 60.4 | 71.4 | 20.1 | 37.8 | 22.0 |
| June, 1926..... | ¹ 4.1 | 4.0 | 57.0 | 63.3 | 18.2 | 36.7 | 19.9 |
| December, 1926..... | ¹ 5.7 | 3.9 | 53.9 | 80.1 | 17.1 | 37.7 | 19.9 |
| June, 1927..... | ¹ 7.2 | 1.9 | 50.2 | 79.4 | 16.0 | 36.6 | 18.1 |
| December, 1927..... | ¹ 8.0 | 1.6 | 47.3 | 76.0 | 16.0 | 36.6 | 17.3 |
| June, 1928..... | ¹ 8.1 | 1.5 | 46.3 | 60.0 | 16.0 | 36.9 | 16.4 |
| December, 1928..... | ¹ 4.9 | .2 | 43.7 | 68.8 | 14.8 | 37.7 | 17.5 |
| June, 1929..... | ¹ 6.0 | 1.1 | 42.6 | ² 63.6 | 13.8 | 38.5 | 16.8 |
| December, 1929..... | ¹ 5.1 | 1.1 | 40.6 | 55.3 | 13.9 | 38.6 | 16.5 |
| June, 1930..... | ¹ 10.6 | 1.6 | 39.6 | 58.9 | 13.3 | 39.6 | 14.7 |
| December, 1930..... | ¹ 19.2 | ¹ 2.4 | 35.8 | 57.9 | 10.7 | 38.8 | 10.4 |
| Minneapolis, Minn.: | | | | | | | |
| December, 1918..... | 17.7 | 33.5 | 1.1 | 14.7 | 18.1 | 12.3 | 15.8 |
| June, 1919..... | 21.4 | 40.1 | ¹ 2.0 | 13.4 | 23.6 | 15.9 | 18.8 |
| December, 1919..... | 34.1 | 67.0 | 8.0 | 22.4 | 45.7 | 25.4 | 32.7 |
| June, 1920..... | 50.0 | 76.7 | 10.7 | 36.9 | 65.6 | 31.3 | 43.4 |
| December, 1920..... | 13.0 | 63.6 | 36.8 | 60.3 | 65.8 | 37.6 | 35.7 |
| May, 1921..... | ¹ 7.9 | 41.0 | 39.0 | 52.8 | 43.3 | 37.9 | 23.7 |
| December, 1921..... | ¹ 4.9 | 14.3 | 46.7 | 50.2 | 27.9 | 37.4 | 20.7 |
| June, 1922..... | ¹ 6.0 | 7.9 | 44.6 | 43.7 | 21.4 | 32.6 | 17.3 |
| December, 1922..... | ¹ 5.3 | 6.5 | 46.8 | 47.0 | 22.5 | 32.6 | 18.0 |
| June, 1923..... | ¹ 6.4 | 9.2 | 42.5 | 44.9 | 29.7 | 32.8 | 17.4 |
| December, 1923..... | ¹ 4.7 | 9.3 | 47.4 | 45.6 | 28.2 | 32.0 | 18.8 |
| June, 1924..... | ¹ 7.9 | 7.4 | 44.7 | 42.2 | 22.8 | 31.3 | 16.2 |
| December, 1924..... | ¹ 4.3 | 5.6 | 44.9 | 43.2 | 23.3 | 31.2 | 17.3 |
| June, 1925..... | 1.8 | 4.9 | 40.7 | 40.9 | 23.2 | 31.1 | 17.6 |
| December, 1925..... | 6.9 | 4.4 | 41.0 | 42.6 | 22.1 | 30.6 | 20.3 |
| June, 1926..... | 5.8 | 3.4 | 36.8 | 45.9 | 19.9 | 32.8 | 19.6 |
| December, 1926..... | 2.3 | 2.5 | 36.1 | 46.6 | 17.0 | 33.5 | 18.2 |
| June, 1927..... | 4.1 | 1.1 | 30.2 | 44.3 | 15.1 | 32.6 | 17.2 |
| December, 1927..... | (³) | ¹ 1.4 | 29.9 | 45.6 | 14.9 | 33.0 | 15.4 |
| June, 1928..... | 1.6 | ¹ 1.1 | 27.2 | 45.2 | 12.3 | 34.6 | 15.8 |
| December, 1928..... | .7 | ¹ 1.5 | 27.5 | 44.6 | 10.5 | 34.5 | 15.2 |
| June, 1929..... | 1.8 | ¹ 1.8 | 25.6 | 41.9 | 10.5 | 36.7 | 15.4 |
| December, 1929..... | 3.9 | ¹ 2.8 | 25.2 | 44.3 | 10.9 | 36.6 | 16.2 |
| June, 1930..... | ¹ 1.0 | ¹ 3.5 | 23.6 | 46.2 | 10.6 | 36.3 | 14.1 |
| December, 1930..... | ¹ 9.4 | ¹ 4.4 | 23.5 | 39.9 | 7.8 | 37.0 | 10.6 |
| New Orleans, La.: | | | | | | | |
| December, 1918..... | 16.6 | 36.8 | (³) | 19.7 | 23.8 | 15.9 | 17.9 |
| June, 1919..... | 17.4 | 48.8 | .1 | 20.8 | 30.0 | 17.5 | 20.7 |
| December, 1919..... | 21.1 | 83.2 | 10.8 | 24.7 | 57.7 | 35.1 | 33.9 |
| June, 1920..... | 28.6 | 94.9 | 12.9 | 36.3 | 75.9 | 42.8 | 41.9 |

¹ Decrease.² The decrease is due primarily to the change in consumption and price accompanying the change from manufactured to natural gas.³ No change.

TABLE 6.—CHANGES IN COST OF LIVING IN 13 CITIES, DECEMBER, 1917, TO DECEMBER, 1930—Continued

| City and date | Per cent of increase over December, 1917, in expenditure for— | | | | | | |
|------------------------------------|---|------------------|------|----------------|------------------------|---------------|-----------|
| | Food | Clothing | Rent | Fuel and light | House-furnishing goods | Miscellaneous | All items |
| New Orleans, La.—Continued. | | | | | | | |
| December, 1920..... | 10.7 | 69.4 | 39.7 | 41.5 | 63.9 | 57.1 | 36.7 |
| May, 1921..... | ¹ 10.7 | 45.0 | 46.7 | 29.2 | 47.7 | 58.2 | 23.8 |
| December, 1921..... | ¹ 9.3 | 24.9 | 57.9 | 40.4 | 28.5 | 60.2 | 22.7 |
| June, 1922..... | ¹ 12.8 | 15.6 | 58.5 | 33.4 | 17.9 | 58.6 | 18.9 |
| December, 1922..... | ¹ 10.5 | 16.2 | 54.7 | 38.5 | 26.2 | 51.9 | 18.6 |
| June, 1923..... | ¹ 13.2 | 17.8 | 55.5 | 32.9 | 34.8 | 50.1 | 17.7 |
| December, 1923..... | ¹ 8.7 | 19.5 | 57.4 | 37.1 | 33.6 | 50.3 | 20.2 |
| June, 1924..... | ¹ 14.6 | 18.6 | 57.1 | 32.9 | 29.2 | 48.7 | 16.8 |
| December, 1924..... | ¹ 5.7 | 17.2 | 57.2 | 36.2 | 30.0 | 48.7 | 20.6 |
| June, 1925..... | ¹ 5.7 | 17.0 | 57.0 | 33.7 | 27.0 | 48.3 | 20.2 |
| December, 1925..... | .9 | 15.9 | 56.8 | 34.2 | 27.5 | 47.9 | 22.7 |
| June, 1926..... | ¹ 5.2 | 15.7 | 57.0 | 39.6 | 26.6 | 46.7 | 20.1 |
| December, 1926..... | ¹ 1.6 | 15.6 | 56.2 | 43.8 | 25.0 | 47.4 | 21.7 |
| June, 1927..... | ¹ 3.9 | 13.4 | 56.0 | 38.5 | 21.8 | 48.6 | 20.3 |
| December, 1927..... | ¹ 4.9 | 13.4 | 56.2 | 38.5 | 21.8 | 48.5 | 19.9 |
| June, 1928..... | ¹ 6.8 | 13.1 | 55.9 | 34.5 | 17.9 | 46.1 | 18.2 |
| December, 1928..... | ¹ 3.2 | 13.1 | 54.8 | 28.4 | 17.9 | 46.8 | 19.5 |
| June, 1929..... | ¹ 4.3 | 12.6 | 53.6 | 14.9 | 15.9 | 45.9 | 17.8 |
| December, 1929..... | ¹ 1.8 | 12.6 | 51.3 | 18.1 | 15.7 | 45.8 | 18.8 |
| June, 1930..... | ¹ 9.8 | 12.0 | 49.2 | 12.4 | 14.8 | 46.5 | 14.8 |
| December, 1930..... | ¹ 15.0 | .1 | 45.3 | 14.4 | 10.2 | 46.5 | 10.2 |
| Pittsburgh, Pa.: | | | | | | | |
| December, 1918..... | 18.8 | 35.9 | 7.6 | 9.2 | 26.3 | 16.3 | 19.8 |
| June, 1919..... | 16.2 | 45.3 | 13.5 | 9.4 | 34.1 | 16.7 | 21.8 |
| December, 1919..... | 25.1 | 82.8 | 15.5 | 9.8 | 63.1 | 28.3 | 36.2 |
| June, 1920..... | 36.5 | 91.3 | 34.9 | 31.7 | 77.4 | 41.2 | 49.1 |
| December, 1920..... | 14.3 | 75.4 | 35.0 | 64.4 | 78.1 | 46.3 | 39.3 |
| May, 1921..... | ¹ 8.8 | 50.7 | 55.5 | 59.8 | 58.2 | 48.6 | 27.7 |
| December, 1921..... | ¹ 5.6 | 23.6 | 55.3 | 66.2 | 31.6 | 48.0 | 22.8 |
| June, 1922..... | ¹ 12.2 | 17.3 | 56.7 | 66.0 | 20.1 | 43.4 | 17.8 |
| December, 1922..... | ¹ 5.4 | 13.1 | 56.7 | 72.8 | 25.1 | 42.8 | 20.1 |
| June, 1923..... | ¹ 5.4 | 14.8 | 60.4 | 68.4 | 29.4 | 44.1 | 21.3 |
| December, 1923..... | ¹ 2.1 | 14.9 | 60.7 | 76.9 | 29.0 | 43.1 | 22.9 |
| June, 1924..... | ¹ 7.5 | 13.7 | 71.8 | 74.8 | 29.0 | 45.3 | 22.4 |
| December, 1924..... | ¹ 2.4 | 11.2 | 72.1 | 92.2 | 29.8 | 46.6 | 24.9 |
| June, 1925..... | ¹ 2 | 11.1 | 75.2 | 91.2 | 27.7 | 46.7 | 26.0 |
| December, 1925..... | 6.2 | 10.5 | 75.2 | 89.9 | 28.0 | 46.8 | 28.5 |
| June, 1926..... | 2.6 | 7.8 | 75.4 | 88.0 | 25.3 | 46.1 | 26.2 |
| December, 1926..... | 5.6 | 5.5 | 75.0 | 91.9 | 24.3 | 46.4 | 27.2 |
| June, 1927..... | 2.2 | 5.2 | 74.7 | 88.8 | 22.6 | 46.3 | 25.4 |
| December, 1927..... | 1.4 | 3.8 | 74.4 | 88.0 | 21.9 | 46.2 | 24.8 |
| June, 1928..... | ¹ 3.8 | 4.2 | 72.8 | 85.6 | 15.9 | 46.9 | 22.3 |
| December, 1928..... | 2.1 | 3.5 | 71.6 | 86.0 | 16.4 | 46.9 | 24.4 |
| June, 1929..... | .6 | 2.9 | 68.3 | 85.6 | 15.1 | 48.1 | 23.2 |
| December, 1929..... | 1.2 | 2.1 | 67.1 | 86.0 | 14.6 | 47.5 | 23.2 |
| June, 1930..... | ¹ 5.6 | 1.5 | 64.9 | 85.1 | 13.5 | 47.9 | 19.9 |
| December, 1930..... | ¹ 13.4 | ¹ 3.9 | 63.7 | 84.4 | 6.6 | 47.5 | 15.2 |
| Richmond, Va.: | | | | | | | |
| December, 1918..... | 20.5 | 33.8 | 1.0 | 11.8 | 26.3 | 9.0 | 17.9 |
| June, 1919..... | 20.6 | 42.3 | 3.6 | 11.4 | 28.6 | 13.5 | 20.6 |
| December, 1919..... | 23.1 | 78.6 | 9.8 | 18.7 | 55.9 | 24.0 | 32.0 |
| June, 1920..... | 36.1 | 93.6 | 12.5 | 36.1 | 75.4 | 32.4 | 43.8 |
| December, 1920..... | 11.9 | 69.0 | 25.9 | 62.2 | 70.0 | 36.0 | 33.3 |
| May, 1921..... | ¹ 7.4 | 43.8 | 29.4 | 47.1 | 48.8 | 38.7 | 20.2 |
| December, 1921..... | ¹ 2.9 | 21.2 | 34.1 | 46.8 | 33.0 | 38.4 | 18.3 |
| June, 1922..... | ¹ 7.8 | 12.9 | 34.5 | 33.4 | 27.6 | 34.7 | 13.2 |
| December, 1922..... | ¹ 6.3 | 10.6 | 35.3 | 54.2 | 29.4 | 33.5 | 14.4 |
| June, 1923..... | ¹ 7.2 | 12.5 | 35.7 | 52.7 | 40.0 | 33.9 | 14.9 |
| December, 1923..... | ¹ 4.8 | 12.9 | 39.4 | 61.2 | 40.5 | 35.4 | 17.1 |
| June, 1924..... | ¹ 11.3 | 11.9 | 39.5 | 49.1 | 37.8 | 35.8 | 13.5 |
| December, 1924..... | ¹ 3.3 | 8.9 | 41.3 | 47.9 | 38.5 | 35.7 | 16.5 |
| June, 1925..... | ¹ 2.4 | 8.6 | 41.4 | 44.2 | 38.2 | 36.0 | 16.7 |
| December, 1925..... | 4.8 | 8.4 | 40.4 | 53.6 | 39.2 | 39.1 | 20.8 |
| June, 1926..... | 1.6 | 8.1 | 39.6 | 51.0 | 38.1 | 40.8 | 19.7 |
| December, 1926..... | .9 | 7.0 | 36.0 | 61.4 | 36.7 | 40.8 | 19.3 |
| June, 1927..... | ¹ 1.2 | 5.8 | 34.0 | 51.9 | 35.6 | 40.9 | 17.4 |
| December, 1927..... | ¹ 2.9 | 5.3 | 31.1 | 54.2 | 35.3 | 40.9 | 16.4 |
| June, 1928..... | ¹ 3.8 | 5.0 | 30.6 | 43.9 | 33.8 | 41.0 | 15.3 |
| December, 1928..... | ¹ 3.1 | 5.4 | 28.9 | 47.5 | 32.7 | 40.9 | 15.7 |
| June, 1929..... | ¹ 5.0 | 4.2 | 28.3 | 42.0 | 32.4 | 40.2 | 14.2 |
| December, 1929..... | ¹ 3.4 | 4.2 | 27.0 | 44.7 | 31.3 | 41.0 | 14.9 |
| June, 1930..... | ¹ 8.0 | 3.3 | 26.5 | 38.5 | 30.0 | 40.4 | 12.3 |
| December, 1930..... | ¹ 14.9 | 2.0 | 25.5 | 42.0 | 26.6 | 41.0 | 9.3 |

¹ Decrease.² The decrease is due primarily to the change in consumption and price accompanying the change from manufactured to natural gas.

TABLE 6.—CHANGES IN COST OF LIVING IN 13 CITIES, DECEMBER, 1917, TO DECEMBER, 1930—Continued

| City and date | Per cent of increase over December, 1917, in expenditure for— | | | | | | |
|------------------------|---|------------------|------|----------------|------------------------|---------------|-----------|
| | Food | Clothing | Rent | Fuel and light | House-furnishing goods | Miscellaneous | All items |
| St. Louis, Mo.: | | | | | | | |
| December, 1918..... | 18.0 | 32.4 | 2.7 | 4.8 | 21.8 | 14.5 | 16.7 |
| June, 1919..... | 16.1 | 39.3 | 3.8 | 3.7 | 32.5 | 15.7 | 17.9 |
| December, 1919..... | 26.2 | 78.1 | 16.8 | 8.2 | 52.9 | 30.3 | 34.2 |
| June, 1920..... | 46.2 | 89.7 | 29.8 | 19.6 | 73.1 | 37.6 | 48.9 |
| December, 1920..... | 8.8 | 70.0 | 42.4 | 42.6 | 70.2 | 43.2 | 35.4 |
| May, 1921..... | ¹ 10.1 | 43.8 | 52.5 | 30.9 | 43.5 | 42.1 | 23.1 |
| December, 1921..... | ¹ 11.6 | 17.2 | 63.8 | 33.4 | 19.2 | 40.6 | 18.5 |
| June, 1922..... | ¹ 12.1 | 7.9 | 65.7 | 32.3 | 12.8 | 33.2 | 15.1 |
| December, 1922..... | ¹ 9.5 | 6.3 | 68.0 | 48.9 | 14.9 | 33.4 | 17.0 |
| June, 1923..... | ¹ 11.5 | 9.0 | 74.6 | 30.8 | 29.8 | 33.4 | 17.7 |
| December, 1923..... | ¹ 7.5 | 9.6 | 79.5 | 32.1 | 30.5 | 35.8 | 20.6 |
| June, 1924..... | ¹ 11.4 | 8.6 | 83.4 | 21.6 | 26.2 | 35.7 | 18.8 |
| December, 1924..... | ¹ 6.5 | 7.9 | 83.4 | 24.6 | 27.4 | 35.8 | 20.7 |
| June, 1925..... | ¹ 2.5 | 7.4 | 85.2 | 19.5 | 28.0 | 36.6 | 22.4 |
| December, 1925..... | 3.4 | 6.9 | 85.4 | 26.9 | 27.9 | 37.0 | 25.0 |
| June, 1926..... | 2.8 | 6.8 | 84.7 | 18.3 | 27.1 | 36.6 | 24.1 |
| December, 1926..... | 2.0 | 7.0 | 83.2 | 38.9 | 22.7 | 36.6 | 24.5 |
| June, 1927..... | 1.2 | 4.4 | 81.0 | 34.0 | 22.3 | 36.5 | 23.2 |
| December, 1927..... | ¹ 2.3 | 3.4 | 78.3 | 34.3 | 23.3 | 36.9 | 21.4 |
| June, 1928..... | ¹ 3.5 | 3.1 | 76.3 | 18.9 | 21.6 | 37.2 | 19.9 |
| December, 1928..... | ¹ 2.2 | 2.5 | 74.2 | 23.1 | 19.5 | 38.7 | 20.4 |
| June, 1929..... | ¹ 1.4 | 1.7 | 71.8 | 22.5 | 17.8 | 38.4 | 20.5 |
| December, 1929..... | ¹ 1.5 | .8 | 69.2 | 33.4 | 16.2 | 44.2 | 21.7 |
| June, 1930..... | ¹ 6.7 | (⁹) | 66.0 | 21.8 | 16.9 | 44.6 | 18.3 |
| December, 1930..... | ¹ 14.9 | ¹ 1.4 | 59.5 | 29.1 | 15.4 | 42.1 | 13.9 |
| Scranton, Pa.: | | | | | | | |
| December, 1918..... | 21.3 | 34.4 | .5 | 24.7 | 27.0 | 21.4 | 21.9 |
| June, 1919..... | 18.1 | 49.6 | 6.2 | 25.7 | 35.6 | 24.9 | 25.0 |
| December, 1919..... | 26.9 | 82.1 | 2.4 | 31.5 | 48.9 | 34.7 | 37.1 |
| June, 1920..... | 41.4 | 97.7 | 17.2 | 43.5 | 62.8 | 47.9 | 51.5 |
| December, 1920..... | 17.8 | 76.5 | 18.5 | 67.3 | 62.0 | 50.4 | 39.1 |
| May, 1921..... | ¹ 4.0 | 54.3 | 41.5 | 62.8 | 48.6 | 54.6 | 28.2 |
| December, 1921..... | 4.1 | 29.1 | 44.6 | 67.1 | 30.7 | 52.4 | 26.3 |
| June, 1922..... | ¹ 6.7 | 24.2 | 52.8 | 68.0 | 24.2 | 49.9 | 20.9 |
| December, 1922..... | ¹ 2.1 | 20.7 | 53.6 | 68.6 | 28.5 | 49.3 | 22.4 |
| June, 1923..... | ¹ 5.1 | 21.7 | 59.0 | 65.2 | 34.7 | 51.4 | 22.4 |
| December, 1923..... | .2 | 23.2 | 60.8 | 75.3 | 34.9 | 51.7 | 25.8 |
| June, 1924..... | ¹ 8.7 | 22.2 | 67.6 | 68.9 | 31.6 | 53.7 | 22.4 |
| December, 1924..... | ¹ 1.6 | 21.1 | 68.6 | 75.7 | 34.6 | 53.7 | 25.8 |
| June, 1925..... | 1.4 | 20.3 | 71.0 | 70.3 | 33.9 | 54.8 | 27.0 |
| December, 1925..... | 9.6 | 20.2 | 70.5 | 99.8 | 33.9 | 55.4 | 32.0 |
| June, 1926..... | 4.7 | 19.5 | 71.4 | 77.8 | 34.4 | 55.9 | 29.0 |
| December, 1926..... | 6.7 | 18.3 | 72.4 | 78.5 | 33.7 | 55.9 | 29.8 |
| June, 1927..... | 4.2 | 17.2 | 73.1 | 71.4 | 32.4 | 55.7 | 28.2 |
| December, 1927..... | 5.0 | 16.3 | 73.4 | 75.3 | 32.1 | 55.9 | 28.5 |
| June, 1928..... | 2.4 | 16.2 | 71.7 | 69.0 | 30.1 | 56.2 | 26.9 |
| December, 1928..... | 4.3 | 15.3 | 71.7 | 72.2 | 29.3 | 57.8 | 27.8 |
| June, 1929..... | 2.9 | 15.2 | 68.1 | 65.0 | 26.5 | 57.5 | 26.3 |
| December, 1929..... | 6.5 | 13.7 | 63.9 | 67.6 | 26.0 | 57.3 | 27.3 |
| June, 1930..... | ¹ 1.8 | 13.5 | 60.5 | 60.2 | 26.0 | 57.3 | 23.5 |
| December, 1930..... | ¹ 8.1 | 10.7 | 59.1 | 66.1 | 22.9 | 56.8 | 19.5 |

¹ Decrease.² No change.Cost of Living in the United States and in Foreign Countries¹

THE trend of cost of living in the United States and in various foreign countries since 1913 is shown by the index numbers in the following tables. Table 1 contains general cost of living index numbers, while Tables 2, 3, 4, and 5 show changes in the cost of food, clothing, fuel and light, and rent, respectively.

Caution should be observed in the use of these figures, since not only are there differences in the base periods and in the number and kind of articles included, and the number of markets represented, but also there are radical differences of method in the construction of the index numbers. The number of countries included in the five

¹ Preceding articles on this subject appeared in the Labor Review for December, 1922, July, 1923, January and July, 1924, January and July, 1925, January, 1926, February, 1927, August, 1928, February and August, 1929, and February and August, 1930.

tables varies according to the information available. Several countries publish a general index and an index number for food only, while others omit clothing and in some instances also rent.

TABLE 1.—INDEX NUMBERS OF **COST OF LIVING** IN THE UNITED STATES AND IN FOREIGN COUNTRIES, 1913, TO DECEMBER 1930

| Country | United States | Canada | Belgium | Czechoslovakia | Denmark | Finland | France | Germany | Ireland | Italy |
|----------------------|---|--|--|--|---|---|--|--|--|--|
| Number of localities | 32 | 60 | 59 | Prague | 200 | 21 | Paris | 71 | 200 | Milan |
| Commodities included | Food, clothing, fuel and light, rent, house furnishings, etc. | Food, clothing, fuel and light, rent, sundries | Food, clothing, fuel and light, rent, sundries | Food, clothing, fuel and light, rent, sundries | Food, clothing, fuel and light, rent, taxes, etc. | Food, clothing, fuel, rent, taxes, etc. | Food, clothing, fuel and light, rent, sundries | Food, clothing, fuel and light, rent, sundries | Food, clothing, fuel and light, rent, sundries | Food, clothing, fuel and light, rent, sundries |
| Computing agency | Bureau of Labor Statistics | Department of Labor | Ministry of Labor and Industry | Office of Statistics | Department of Statistics | Central Statistical Office | Commission for Study of Cost of Living | Federal Statistical Bureau | Department of Industry and Commerce | Municipal Administration |
| Base period | 1913 | 1913 | 1921 | July, 1914 | July, 1914 | January-June, 1914 ^a | January-June, 1914 | 1913-14 | July, 1914 | January-June, 1914 |
| 1913 | 100 | 100 | | | | | | | | |
| 1914 | ¹ 103 | ¹ 103 | | ² 100 | ² 100 | ² 100 | ² 100 | ⁴ 100 | ² 100 | ² 100 |
| 1915 | ¹ 105 | ¹ 107 | | | ² 116 | | | | | 114 |
| 1916 | ¹ 118 | ¹ 124 | | | ² 136 | | | | | 146 |
| 1917 | ¹ 142 | ¹ 143 | | | ² 155 | | | | | 197 |
| 1918 | ¹ 174 | ¹ 162 | | | ² 182 | | | | | 285 |
| 1919 | ¹ 199 | ¹ 176 | | | ² 211 | | ² 238 | | | 327 |
| 1920 | ¹ 200 | ¹ 190 | | | ² 262 | | ² 341 | | | 442 |
| 1921 | ¹ 174 | ¹ 161 | 100 | | ² 237 | ¹ 1172 | ² 307 | | | 541 |
| 1922 | ¹ 170 | ¹ 157 | ² 90 | | ² 199 | ¹ 1157 | ² 302 | | ² 185 | 501 |
| 1923 | ¹ 173 | ¹ 159 | ² 109 | 690 | ² 204 | 1147 | ² 334 | ¹ 142 | ² 180 | 494 |
| 1924 | | | ² 125 | 692 | ² 214 | 1170 | | | ² 183 | 527 |
| Dec | 173 | 156 | 137 | 707 | | 1217 | ⁶ 377 | 135 | | 573 |
| 1925 | | | ² 133 | 721 | ² 219 | 1212 | | | ² 188 | 611 |
| Dec | 178 | 160 | 143 | 703 | | 1197 | ⁶ 421 | 141 | | 649 |
| 1926 | | | ² 174 | 710 | ² 184 | 1183 | | | | 654 |
| Dec | 176 | 157 | 199 | 735 | | 1197 | ⁶ 545 | 144 | ² 182 | 657 |
| 1927 | | | ² 204 | 739 | ² 176 | 1207 | | | | |
| Dec | 172 | 157 | 207 | 734 | | 1243 | ⁶ 498 | 151 | ² 171 | 531 |
| 1928: | | | | | | | | | | |
| Mar | | 156 | 203 | 730 | | 1214 | ⁶ 507 | 151 | | 531 |
| June | 170 | 155 | 204 | 734 | | 1219 | ⁶ 519 | 151 | | 530 |
| Sept | | 157 | 209 | 749 | | 1249 | ⁶ 519 | 152 | | 526 |
| Dec | 171 | 158 | 216 | 725 | | 1260 | ⁶ 531 | 153 | | 538 |
| 1929: | | | | | | | | | | |
| Jan | | 158 | 216 | 727 | 173 | 1242 | | 153 | 177 | 541 |
| Feb | | 157 | 217 | 730 | | 1232 | | 154 | | 544 |
| Mar | | 157 | 216 | 736 | | 1229 | ⁶ 547 | 157 | | 561 |
| Apr | | 156 | 214 | 728 | 174 | 1219 | | 154 | 173 | 551 |
| May | | 156 | 214 | 726 | | 1210 | | 154 | | 542 |
| June | 170 | 156 | 213 | 726 | | 1215 | ⁶ 556 | 153 | | 544 |
| July | | 156 | 216 | 743 | 173 | 1223 | | 154 | 174 | 542 |
| Aug | | 159 | 221 | 733 | | 1232 | | 154 | | 537 |
| Sept | | 159 | 225 | 717 | | 1230 | ⁶ 555 | 154 | | 540 |
| Oct | | 160 | 229 | 716 | 172 | 1236 | | 154 | 179 | 545 |
| Nov | | 160 | 229 | 718 | | 1228 | | 153 | | 546 |
| Dec | 171 | 160 | 228 | ⁷ 105 | | 1207 | ⁶ 565 | 153 | | 549 |
| 1930: | | | | | | | | | | |
| Jan | | 160 | 226 | ⁷ 106 | 170 | 1181 | | 152 | 179 | 549 |
| Feb | | 160 | 238 | ⁷ 106 | | 1165 | | 150 | | 543 |
| Mar | | 159 | 232 | ⁷ 104 | | 1154 | ⁶ 565 | 149 | | 538 |
| Apr | | 157 | 226 | ⁷ 103 | 167 | 1134 | | 147 | 168 | 534 |
| May | | 157 | 224 | ⁷ 103 | | 1115 | | 147 | | 529 |
| June | 167 | 157 | 224 | ⁷ 105 | | 1108 | ⁶ 572 | 148 | | 531 |
| July | | 156 | 227 | ⁷ 106 | 165 | 1128 | | 149 | 168 | 531 |
| Aug | | 155 | 229 | ⁷ 105 | | 1144 | | 149 | | 527 |
| Sept | | 152 | 230 | ⁷ 103 | | 1130 | ⁶ 592 | 147 | | 522 |
| Oct | | 152 | 229 | ⁷ 102 | 162 | 1109 | | 145 | 168 | 525 |
| Nov | | 152 | | ⁷ 101 | | 1101 | | 144 | | |
| Dec | 161 | | | | | | | | | |

¹ December.

⁴ October, 1913; January, April, and June, 1914.

⁷ In gold.

² July.

⁵ April-June.

^a All figures except base year on paper basis.

³ January-June.

⁶ Quarter ending with month.

TABLE 1.—INDEX NUMBERS OF **COST OF LIVING** IN THE UNITED STATES AND IN FOREIGN COUNTRIES, 1913, TO DECEMBER, 1930—Continued

| Country.. | Nether- lands | Norway | Poland | Sweden | Swit- zerland | United King- dom | South Africa | India | Austra- lia | New Zealand |
|----------------------------------|------------------------------|--|--|--|--|--|---|---|---|--|
| Number of localities.. | Amster- dam | 30 | Warsaw | 49 | 33 | 630 | 9 | Bombay | 30 | 25 |
| Commod- ities in- cluded.. | All com- modities | Food, clothing, fuel, light, rent, sundries | Food, clothing, fuel, light, rent, sundries | Food, clothing, fuel, light, rent, sundries | Food, clothing, fuel, light, rent, sundries | Food, clothing, fuel, light, rent, sundries | Food, fuel, light, rent, sundries | Food, clothing, fuel, light, rent | Food, gro- ceries, rent | Food, clothing, fuel, light, rent, sundries |
| Comput- ing agen- cy..... | Bureau of Statis- tics | Central Statist- ical Office | Central Statist- ical Office | Board of Social Welfare | Federal Labor Office | Minis- try of Labor | Office of Census and Sta- tistics | Labor Office | Bureau of Census and Sta- tistics | Census and Sta- tistics Office |
| Base pe- riod..... | 1911- 1913 | July, 1914 | January, 1914 | July, 1914 | June, 1914 | July, 1914 | 1914 | July, 1914 | 1911 | July, 1914 |
| 1913..... | | | | | | | | | 108 | |
| 1914..... | | ¹ 100 | 100 | ² 100 | ² 100 | ² 100 | 100 | ² 100 | 111 | ² 100 |
| 1915..... | | ¹ 117 | | | | ² 125 | 105 | | 126 | 107 |
| 1916..... | | ¹ 146 | | ¹ 139 | | ² 148 | 112 | | 130 | 116 |
| 1917..... | ² 142 | ¹ 190 | | ¹ 166 | | ² 180 | 122 | | 129 | 129 |
| 1918..... | ¹ 177 | ¹ 253 | | ² 219 | 204 | ² 203 | 131 | 154 | 134 | 143 |
| 1919..... | ¹ 205 | ¹ 275 | | ² 257 | 222 | ² 208 | 145 | 175 | 148 | 157 |
| 1920..... | ¹ 222 | ¹ 302 | | ² 270 | 224 | ² 252 | 179 | 183 | 175 | 178 |
| 1921..... | ¹ 190 | ¹ 302 | | ² 236 | 200 | ² 219 | 162 | 173 | 167 | 177 |
| 1922..... | ¹ 176 | ¹ 255 | | ² 190 | 164 | ² 184 | 135 | 164 | 156 | 160 |
| 1923..... | ¹ 178 | ¹ 239 | | ² 174 | 164 | ² 169 | 131 | 154 | 168 | 158 |
| 1924..... | | | | ² 171 | 169 | ² 170 | 133 | 157 | 166 | 160 |
| Dec..... | 181 | 267 | | | | 181 | 133 | 160 | ⁶ 165 | |
| 1925..... | | | | ² 176 | 168 | ² 173 | 133 | 155 | 170 | 162 |
| Dec..... | 177 | 236 | | | 167 | 177 | 131 | 155 | ⁶ 172 | 164 |
| 1926..... | | | | ² 172 | 162 | ² 170 | | | 176 | 163 |
| Dec..... | 168 | 216 | 115 | | 161 | 179 | 129 | 156 | ⁶ 174 | 163 |
| 1927..... | | | | ² 169 | 160 | ² 166 | | | 174 | 162 |
| Dec..... | 170 | 197 | 121 | | 162 | 169 | 132 | 151 | ⁶ 177 | 161 |
| 1928..... | | | | | | | | | | |
| Mar..... | 169 | 196 | 119 | | 160 | 164 | 132 | 145 | ⁶ 175 | |
| June..... | 170 | 195 | 122 | | 161 | 165 | 132 | 146 | ⁶ 175 | |
| Sept..... | 169 | 187 | 122 | | 161 | 165 | 131 | 145 | ⁶ 173 | |
| Dec..... | 168 | 184 | 125 | | 162 | 168 | 131 | 148 | ⁶ 173 | |
| 1929..... | | | | | | | | | | |
| Jan..... | | 183 | 125 | 170 | 161 | 167 | 131 | 149 | | |
| Feb..... | | 183 | 128 | | 161 | 165 | 131 | 149 | | 161 |
| Mar..... | 169 | 182 | 125 | | 161 | 166 | 132 | 149 | ⁶ 180 | |
| Apr..... | | 181 | 125 | 171 | 159 | 162 | 132 | 148 | | |
| May..... | | 181 | 125 | | 160 | 161 | 132 | 147 | | 161 |
| June..... | 169 | 181 | 123 | | 161 | 160 | 132 | 147 | ⁶ 180 | |
| July..... | | 182 | 123 | 169 | 161 | 161 | 131 | 148 | | |
| Aug..... | | 184 | 123 | | 162 | 163 | 131 | 149 | | 161 |
| Sept..... | 167 | 182 | 123 | | 163 | 164 | 131 | 149 | ⁶ 180 | |
| Oct..... | | 182 | 124 | 170 | 163 | 165 | 130 | 149 | | |
| Nov..... | | 182 | 125 | | 162 | 167 | 130 | 150 | | 161 |
| Dec..... | 167 | 180 | 126 | | 162 | 167 | 129 | 150 | ⁶ 180 | |
| 1930..... | | | | | | | | | | |
| Jan..... | | 179 | 121 | 167 | 161 | 166 | 129 | 147 | | |
| Feb..... | | 179 | 118 | | 160 | 164 | 129 | 145 | ⁶ 173 | 159 |
| Mar..... | 163 | 177 | 117 | | 159 | 161 | 129 | 142 | | |
| Apr..... | | 177 | 117 | 165 | 158 | 157 | 129 | 141 | | |
| May..... | | 176 | 116 | | 158 | 155 | 129 | 141 | ⁶ 171 | 158 |
| June..... | 162 | 177 | 116 | | 158 | 154 | 129 | 141 | | |
| July..... | | 176 | 119 | 164 | 159 | 155 | 128 | 140 | | |
| Aug..... | | 177 | 117 | | 159 | 157 | 128 | 137 | | 157 |
| Sept..... | 162 | 176 | 117 | | 159 | 157 | 126 | 137 | | |
| Oct..... | | 175 | 117 | 163 | 158 | 156 | 126 | 132 | | |
| Nov..... | | 175 | 119 | | 157 | 157 | | 128 | | |
| Dec..... | | | | | | 155 | | | | |

¹ December.² July.⁶ Quarter ending with month.⁸ June⁹ September.

TABLE 2.—INDEX NUMBERS OF **COST OF FOOD** IN THE UNITED STATES AND IN FOREIGN COUNTRIES, 1913 TO DECEMBER, 1930

| Country.. | United States | Canada | Belgium | Czecho-slovakia | Den-mark | Fin-land | France | Ger-many | Ireland | Italy |
|------------------------|----------------------------|---------------------|--------------------------------|----------------------|--------------------------|----------------------------|--|----------------------------|-------------------------------------|--------------------------|
| Number of localities.. | 51 | 60 | 59 | Prague | 200 | 21 | Paris | 71 | 200 | Milan |
| Computing agency..... | Bureau of Labor Statistics | Department of Labor | Ministry of Labor and Industry | Office of Statistics | Department of Statistics | Central Statistical Office | Commission for Study of Cost of Living | Federal Statistical Bureau | Department of Industry and Commerce | Municipal Administration |
| Base period..... | 1913 | 1913 | 1921 | July, 1914 | July, 1914 | January-June, 1914 * | January-June, 1914 | 1913-14 | July, 1914 | January-June, 1914 |
| 1913..... | 100 | 100 | | | | | | | | |
| 1914..... | ¹ 105 | ¹ 108 | | ² 100 | ² 100 | ³ 100 | ³ 100 | ⁴ 100 | ² 100 | ³ 100 |
| 1915..... | ¹ 105 | ¹ 111 | | | | | | | | 116 |
| 1916..... | ¹ 126 | ¹ 138 | | | | | | | | 149 |
| 1917..... | ¹ 157 | ¹ 167 | | | | | | | | 205 |
| 1918..... | ¹ 187 | ¹ 186 | | | | | | | | 320 |
| 1919..... | ¹ 197 | ¹ 201 | | | | | ³ 260 | | | 359 |
| 1920..... | ¹ 178 | ¹ 202 | | | | | ³ 344 | | | 455 |
| 1921..... | ¹ 150 | ¹ 150 | 100 | | | ¹ 1230 | ³ 323 | | | 559 |
| 1922..... | ¹ 147 | ¹ 142 | ² 87 | | ² 184 | ¹ 1122 | ³ 316 | | ² 185 | 522 |
| 1923..... | ¹ 150 | ¹ 146 | ² 105 | 769 | ² 188 | 1079 | ³ 346 | ¹ 166 | ² 182 | 500 |
| 1924..... | 146 | | ² 124 | 787 | | 1093 | | | ² 185 | 528 |
| Dec..... | 152 | 144 | 140 | 810 | | 1160 | ⁶ 389 | 146 | | 579 |
| 1925..... | 157 | | ² 134 | 827 | ² 210 | 1147 | | | ² 188 | 622 |
| Dec..... | 166 | 157 | 147 | 796 | | 1138 | ⁶ 437 | 146 | | 660 |
| 1926..... | 161 | | ² 185 | | ² 159 | 1108 | | | ² 174 | 655 |
| Dec..... | 162 | 152 | 208 | 840 | | 1110 | ⁶ 574 | 150 | | 631 |
| 1927..... | 155 | | ² 210 | | ² 153 | 1115 | | | ² 166 | |
| Dec..... | 156 | 152 | 211 | 844 | | 1171 | ⁶ 504 | 153 | | 513 |
| 1928: | | | | | | | | | | |
| Mar..... | 151 | 149 | 201 | 838 | | 1123 | ⁶ 521 | 151 | | 516 |
| June..... | 153 | 146 | 203 | 843 | | 1126 | ⁶ 544 | 152 | | 520 |
| Sept..... | 158 | 152 | 208 | 861 | | 1174 | ⁶ 536 | 153 | | 513 |
| Dec..... | 156 | 154 | 218 | 820 | | 1186 | ⁶ 555 | 153 | | 533 |
| 1929: | | | | | | | | | | |
| Jan..... | 155 | 154 | 217 | 815 | 147 | 1156 | | 153 | 173 | 539 |
| Feb..... | 154 | 152 | 217 | 821 | | 1141 | | 156 | | 541 |
| Mar..... | 153 | 153 | 215 | 830 | | 1135 | ⁶ 578 | 159 | | 570 |
| Apr..... | 152 | 150 | 212 | 815 | 150 | 1118 | | 154 | 164 | 553 |
| May..... | 153 | 149 | 210 | 812 | | 1104 | | 154 | | 537 |
| June..... | 155 | 149 | 208 | 817 | | 1103 | ⁶ 590 | 154 | | 541 |
| July..... | 158 | 150 | 212 | 843 | 149 | 1116 | | 156 | 166 | 538 |
| Aug..... | 160 | 158 | 220 | 825 | | 1131 | | 155 | | 528 |
| Sept..... | 161 | 159 | 225 | 796 | | 1128 | ⁶ 577 | 154 | | 534 |
| Oct..... | 160 | 159 | 229 | 791 | 146 | 1137 | | 154 | 173 | 541 |
| Nov..... | 160 | 160 | 229 | 794 | | 1123 | | 153 | | 543 |
| Dec..... | 158 | 161 | 227 | ⁷ 117 | | 1090 | ⁶ 589 | 152 | | 548 |
| 1930: | | | | | | | | | | |
| Jan..... | 155 | 162 | 224 | ⁷ 117 | 145 | 1048 | | 150 | 172 | 546 |
| Feb..... | 153 | 161 | 221 | ⁷ 116 | | 1022 | | 148 | | 537 |
| Mar..... | 150 | 159 | 212 | ⁷ 113 | | 1006 | ⁶ 579 | 145 | | 527 |
| Apr..... | 151 | 153 | 204 | ⁷ 113 | 140 | 975 | | 143 | 156 | 520 |
| May..... | 150 | 152 | 201 | ⁷ 112 | | 945 | | 142 | | 519 |
| June..... | 148 | 151 | 201 | ⁷ 115 | | 937 | ⁶ 593 | 143 | | 523 |
| July..... | 144 | 149 | 206 | ⁷ 117 | 137 | 969 | | 146 | 156 | 519 |
| Aug..... | 144 | 145 | 208 | ⁷ 114 | | 995 | | 145 | | 511 |
| Sept..... | 146 | 141 | 210 | ⁷ 110 | | 976 | ⁶ 626 | 142 | | 504 |
| Oct..... | 144 | 141 | 209 | ⁷ 109 | | 944 | | 140 | 156 | 515 |
| Nov..... | 141 | 140 | | ⁷ 109 | | 934 | | 138 | | |
| Dec..... | 137 | | | | | | | | | |

¹ December.² July.³ January-June.⁴ October, 1913; January, April, and June, 1914.⁵ April-June.⁶ Quarter ending with month.⁷ In gold.⁸ All figures except base year on paper basis.

TABLE 2.—INDEX NUMBERS OF **COST OF FOOD** IN THE UNITED STATES AND IN FOREIGN COUNTRIES, 1913 TO DECEMBER, 1930—Continued

| Country-- | Nether-lands | Norway | Poland | Sweden | Switzer-land | United Kingdom | South Africa | India | Austra-lia | New Zea-land |
|-------------------------|-----------------------|-----------------------------|-----------------------------|-------------------------|----------------------|--------------------|----------------------------------|------------------|----------------------------------|-------------------------------|
| Number of localities-- | Amster-dam | 30 | War-saw | 49 | 33 | 630 | 9 | Bom-bay | 30 | 25 |
| Comput-ing agen-cy----- | Bureau of Statis-tics | Central Statist-ical Office | Central Statist-ical Office | Board of Social Welfare | Federal Labor Office | Minis-try of Labor | Office of Census and Statis-tics | Labor Office | Bureau of Census and Statis-tics | Census and Statis-tics Office |
| Base pe-riod----- | 1911-1913 | July, 1914 | Janu-ary, 1914 | July, 1914 | June, 1914 | July, 1914 | 1914 | July, 1914 | July, 1914 | July, 1914 |
| 1914----- | | ¹ 100 | 100 | ² 100 | ² 100 | ² 100 | 100 | ² 100 | ² 100 | ² 100 |
| 1915----- | | ¹ 123 | | | | | 107 | | ² 131 | 112 |
| 1916----- | | ¹ 153 | | ¹ 152 | | | 111 | | ² 130 | 119 |
| 1917----- | ² 148 | ¹ 203 | | | | | 124 | | ² 126 | 128 |
| 1918----- | ¹ 181 | ¹ 271 | | ² 258 | | | 125 | | ² 131 | 139 |
| 1919----- | ¹ 215 | ¹ 290 | | ² 318 | | | 136 | | ² 147 | 146 |
| 1920----- | ¹ 240 | ¹ 319 | | ² 287 | | | 178 | | ² 164 | 168 |
| 1921----- | ¹ 201 | ¹ 295 | | ² 231 | 213 | ² 220 | ¹ 128 | ² 174 | ² 161 | 164 |
| 1922----- | ¹ 171 | ¹ 231 | | ² 178 | 163 | ² 180 | ¹ 118 | ² 160 | ² 148 | 142 |
| 1923----- | ¹ 179 | ¹ 217 | | ² 158 | 165 | ² 162 | ¹ 118 | ² 148 | ² 164 | 143 |
| 1924----- | | | | ² 155 | 172 | ² 162 | | | ² 148 | 148 |
| Dec----- | 181 | 274 | | | 175 | 180 | 121 | 156 | 148 | 150 |
| 1925----- | | | | ² 168 | 169 | ² 167 | | | ² 156 | 151 |
| Dec----- | 172 | 221 | 125 | | 167 | 174 | 116 | 151 | 155 | 154 |
| 1926----- | | | | ² 156 | 160 | ² 161 | | | ² 159 | 150 |
| Dec----- | 161 | 184 | 142 | | 159 | 169 | 117 | 154 | 158 | 149 |
| 1927----- | | | | 148 | 158 | ² 159 | | | ² 152 | 145 |
| Dec----- | 167 | 171 | 147 | | 160 | 163 | 119 | 149 | 155 | 146 |
| 1928:----- | | | | | | | | | | |
| Mar----- | 166 | 171 | 140 | | 157 | 155 | 118 | 142 | 153 | 145 |
| June----- | 169 | 171 | 143 | | 156 | 156 | 118 | 142 | 154 | 147 |
| Sept----- | 166 | 164 | 142 | | 157 | 156 | 115 | 141 | 150 | 147 |
| Dec----- | 164 | 161 | 147 | | 158 | 160 | 115 | 145 | 152 | 152 |
| 1929:----- | | | | | | | | | | |
| Jan----- | | 158 | 146 | 150 | 157 | 159 | 115 | 146 | 161 | 149 |
| Feb----- | | 157 | 153 | | 157 | 156 | 115 | 146 | 161 | 148 |
| Mar----- | 163 | 158 | 146 | | 156 | 157 | 117 | 146 | 160 | 146 |
| Apr----- | | 156 | 144 | 151 | 154 | 150 | 118 | 145 | 162 | 147 |
| May----- | | 156 | 144 | | 154 | 149 | 119 | 143 | 160 | 148 |
| June----- | 165 | 156 | 139 | | 155 | 147 | 118 | 144 | 161 | 147 |
| July----- | | 157 | 139 | 148 | 155 | 149 | 116 | 145 | 160 | 146 |
| Aug----- | | 161 | 137 | | 156 | 153 | 115 | 146 | 161 | 147 |
| Sept----- | 160 | 160 | 137 | | 158 | 154 | 114 | 146 | 162 | 147 |
| Oct----- | | 160 | 139 | 150 | 158 | 156 | 113 | 147 | 165 | 147 |
| Nov----- | | 159 | 142 | | 157 | 159 | 112 | 147 | 164 | 147 |
| Dec----- | 162 | 157 | 144 | | 157 | 159 | 112 | 148 | 155 | 147 |
| 1930:----- | | | | | | | | | | |
| Jan----- | | 156 | 131 | 145 | 155 | 157 | 112 | 145 | 153 | 146 |
| Feb----- | | 154 | 125 | | 154 | 154 | 111 | 143 | 151 | 145 |
| Mar----- | 152 | 152 | 122 | | 153 | 150 | 111 | 139 | 151 | 144 |
| Apr----- | | 152 | 121 | 140 | 152 | 143 | 113 | 138 | 151 | 144 |
| May----- | | 151 | 119 | | 150 | 140 | 113 | 137 | 150 | 144 |
| June----- | 152 | 151 | 120 | | 151 | 138 | 112 | 137 | 149 | 144 |
| July----- | | 151 | 126 | 138 | 152 | 141 | 109 | 136 | 147 | 143 |
| Aug----- | | 151 | 122 | | 152 | 144 | 108 | 133 | 146 | 141 |
| Sept----- | | 151 | 122 | | 152 | 144 | 107 | 134 | 141 | 140 |
| Oct----- | | 150 | 122 | 137 | 152 | 143 | 108 | 127 | 138 | 139 |
| Nov----- | | 149 | | | 151 | 144 | | 123 | | |
| Dec----- | | | | | | 141 | | | | |

¹ December.² July.³ Quarter ending with month.⁴ June.

TABLE 3.—INDEX NUMBERS OF **COST OF CLOTHING** IN THE UNITED STATES AND IN FOREIGN COUNTRIES, 1913 TO DECEMBER, 1930

| Country... | United States | Canada | Belgium | Czecho-slovakia | Den-mark | Finland | France | Germany | Italy |
|-----------------------|----------------------------|---------------------|--------------------------------|----------------------|--------------------------|----------------------------|--|----------------------------|--------------------------|
| Number of localities. | 32 | 60 | 59 | Prague | 100+ | 21 | Paris | 71 | Milan |
| Computing agency-- | Bureau of Labor Statistics | Department of Labor | Ministry of Labor and industry | Office of Statistics | Department of Statistics | Central Statistical Office | Commission for Study of Cost of Living | Federal Statistical Bureau | Municipal Administration |
| Base period----- | 1913 | 1913 | 1921 | July, 1914 | July, 1914 | January-June, 1914* | January-June, 1914 | 1913-14 | January-June, 1914 |
| 1913..... | 100 | 100 | | | | | | | |
| 1914..... | ¹ 101 | ¹ 103 | | ² 100 | ² 100 | ³ 100 | ³ 100 | ⁴ 100 | ³ 100 |
| 1915..... | ¹ 105 | ¹ 115 | | | ² 110 | | | | |
| 1916..... | ¹ 120 | ¹ 136 | | | ² 160 | | | | |
| 1917..... | ¹ 149 | ¹ 158 | | | ² 190 | | | | |
| 1918..... | ¹ 205 | ¹ 185 | | | ² 260 | | | | ² 284 |
| 1919..... | ¹ 269 | ¹ 210 | | | ² 310 | | ³ 296 | | ² 221 |
| 1920..... | ¹ 259 | ¹ 232 | | | ² 355 | | ³ 485 | | ² 692 |
| 1921..... | ¹ 184 | ¹ 177 | 100 | | ² 248 | ¹ 1107 | ³ 353 | | ² 512 |
| 1922..... | ¹ 172 | ¹ 162 | ² 99 | | ² 217 | ¹ 1090 | ³ 315 | | 610 |
| 1923..... | ¹ 176 | ¹ 164 | ² 113 | 963 | ² 239 | 1065 | ³ 365 | ¹ 194 | 615 |
| 1924..... | | | ² 133 | 964 | ² 267 | 1039 | | | 611 |
| Dec..... | 171 | 159 | 140 | 1006 | | 1046 | ³ 440 | 173 | 667 |
| 1925..... | | | ² 142 | 996 | ² 272 | 1043 | | | 655 |
| Dec..... | 169 | 159 | 144 | 995 | | 1043 | ³ 510 | 173 | 702 |
| 1926..... | | | ² 166 | 988 | ² 210 | 1042 | | | 699 |
| Dec..... | 167 | 157 | 199 | 982 | | 1035 | ³ 616 | 158 | 709 |
| 1927..... | | | ² 217 | 987 | ² 192 | 1036 | | | |
| Dec..... | 163 | 155 | 234 | 1013 | | 1038 | ³ 581 | 166 | 591 |
| 1928: | | | | | | | | | |
| Mar..... | | 155 | 240 | 1020 | | 1043 | ³ 581 | 169 | 591 |
| June..... | 163 | 157 | 242 | 1033 | | 1048 | ³ 581 | 170 | 559 |
| Sept..... | | 157 | 246 | 1032 | | 1052 | ³ 591 | 171 | 561 |
| Dec..... | 162 | 157 | 250 | 1023 | | 1055 | ³ 591 | 173 | 555 |
| 1929: | | | | | | | | | |
| Jan..... | | 157 | 251 | 1022 | 198 | 1055 | | 173 | 555 |
| Feb..... | | 157 | 252 | 1018 | | 1055 | | 173 | 555 |
| Mar..... | | 157 | 253 | 1018 | | 1055 | ³ 594 | 173 | 555 |
| Apr..... | | 157 | 254 | 1025 | 196 | 1056 | | 173 | 555 |
| May..... | | 157 | 255 | 1025 | | 1056 | | 173 | 556 |
| June..... | 161 | 157 | 256 | 998 | | 1055 | ³ 604 | 172 | 555 |
| July..... | | 157 | 256 | 998 | 196 | 1055 | | 172 | 555 |
| Aug..... | | 156 | 258 | 998 | | 1055 | | 172 | 555 |
| Sept..... | | 156 | 259 | 1006 | | 1055 | ³ 604 | 171 | 555 |
| Oct..... | | 156 | 261 | 1006 | 195 | 1055 | | 171 | 554 |
| Nov..... | | 156 | 262 | 1006 | | 1055 | | 171 | 550 |
| Dec..... | 160 | 156 | 262 | ⁷ 147 | | 1051 | ³ 604 | 170 | 549 |
| 1930: | | | | | | | | | |
| Jan..... | | 156 | 263 | ⁷ 147 | 187 | 1051 | | 170 | 549 |
| Feb..... | | 155 | 263 | ⁷ 146 | | 1051 | | 169 | 549 |
| Mar..... | | 155 | 263 | ⁷ 145 | | 1050 | ³ 626 | 169 | 549 |
| Apr..... | | 155 | 263 | ⁷ 145 | | 1046 | | 168 | 549 |
| May..... | | 155 | 262 | ⁷ 145 | | 1046 | | 167 | 509 |
| June..... | 159 | 155 | 262 | ⁷ 145 | | 1046 | ³ 626 | 167 | 509 |
| July..... | | 155 | 262 | ⁷ 145 | | 1045 | | 166 | 509 |
| Aug..... | | 155 | 263 | ⁷ 145 | | 1045 | | 163 | 509 |
| Sept..... | | 148 | 264 | ⁷ 145 | | 1042 | ³ 626 | 161 | 509 |
| Oct..... | | 148 | 262 | ⁷ 142 | | 1039 | | 159 | 480 |
| Nov..... | | | | ⁷ 137 | | 1035 | | | |
| Dec..... | 153 | | | | | | | | |

¹ December.² July.³ January-June.⁴ October, 1913; January, April, and June, 1914.⁵ April-June.⁶ Quarter ending with month.⁷ In gold.⁸ All figures except base year on paper basis.

TABLE 3.—INDEX NUMBERS OF **COST OF CLOTHING** IN THE UNITED STATES AND IN FOREIGN COUNTRIES, 1913 TO DECEMBER, 1930—Contd.

| Country..... | Norway | Poland | Sweden | Switzer- land | United King- dom | India | Australia | New Zealand |
|------------------------|----------------------------------|----------------------------------|-------------------------------|----------------------------|---------------------------|------------------|---|--|
| Number of localities.. | 30 | Warsaw | 49 | 33 | 100 | Bombay | 6 | 4 |
| Computing agency.... | Central Statistical Office | Central Statistical Office | Board of Social Welfare | Federal Labor Office | Minis- try of Labor | Labor Office | Bureau of Cen- sus and Statist- ics | Census and Statist- ics Office |
| Base period..... | July, 1914 | January, 1914 | July, 1914 | June, 1914 | July, 1914 | July, 1914 | Novem- ber, 1914 | July, 1914 |
| 1914..... | ¹ 100 | 100 | ² 100 | ² 100 | ² 100 | ² 100 | ⁹ 100 | ² 100 |
| 1915..... | | | | | ² 125 | | ⁹ 105 | 109 |
| 1916..... | | | ¹ 160 | | ² 155 | | ⁹ 117 | 127 |
| 1917..... | | | ¹⁰ 210 | | ² 200 | | ⁹ 132 | 156 |
| 1918..... | ¹ 312 | | ² 285 | | ² 310 | | ⁹ 145 | 179 |
| 1919..... | ¹ 388 | | ² 310 | | ² 360 | | ⁹ 164 | 216 |
| 1920..... | ¹ 336 | | ² 390 | | ² 430 | | ⁹ 181 | 245 |
| 1921..... | ¹ 292 | | ² 270 | 232 | ² 290 | ² 263 | ⁹ 165 | 226 |
| 1922..... | ¹ 247 | | ² 210 | 186 | 239 | 247 | ⁹ 140 | 188 |
| 1923..... | ¹ 230 | | ² 196 | 176 | 222 | 214 | ⁹ 136 | 176 |
| 1924..... | ¹ 246 | | ² 192 | 179 | 226 | 226 | | 168 |
| December..... | ⁶ 257 | | | 181 | | 214 | | |
| 1925..... | | | ² 191 | 181 | | ² 192 | | 164 |
| December..... | ⁶ 225 | 154 | | 179 | 225 | 176 | | |
| 1926..... | | | ² 187 | 172 | | ² 160 | | 155 |
| December..... | ⁶ 191 | 148 | | 166 | 218 | 148 | | |
| 1927..... | | | ² 180 | 162 | | ² 149 | | 149 |
| December..... | ⁶ 172 | 169 | | 162 | 215 | 154 | | |
| 1928: | | | | | | | | |
| March..... | ⁶ 169 | 169 | | 162 | 218 | 151 | | |
| June..... | ⁶ 169 | 169 | | 166 | 220 | 156 | | |
| September..... | ⁶ 168 | 169 | | 166 | 220 | 157 | | |
| December..... | ⁶ 166 | 169 | | 169 | 220 | 160 | | |
| 1929: | | | | | | | | |
| January..... | | 169 | 186 | 169 | 220 | 160 | | |
| February..... | | 169 | | 169 | 220 | 160 | | 144 |
| March..... | ⁶ 164 | 169 | | 169 | 220 | 159 | | |
| April..... | | 169 | 185 | 167 | 220 | 160 | | |
| May..... | | 169 | | 167 | 218 | 160 | | 144 |
| June..... | ⁶ 164 | 169 | | 167 | 218 | 159 | | |
| July..... | | 169 | 184 | 167 | 218 | 160 | | |
| August..... | | 169 | | 167 | 218 | 160 | | 143 |
| September..... | ⁶ 163 | 169 | | 167 | 218 | 159 | | |
| October..... | | 169 | 183 | 165 | 215 | 158 | | |
| November..... | | 171 | | 165 | 215 | 154 | | 142 |
| December..... | ⁶ 161 | 171 | | 165 | 215 | 151 | | |
| 1930: | | | | | | | | |
| January..... | | 171 | 183 | 165 | 215 | 150 | | |
| February..... | | 171 | | 165 | 215 | 138 | | 141 |
| March..... | 160 | 171 | | 165 | 215 | 136 | | |
| April..... | | 171 | 181 | 160 | 213 | 137 | | |
| May..... | | 171 | | 160 | 213 | 138 | | 139 |
| June..... | 159 | 171 | | 160 | 213 | 138 | | |
| July..... | | 171 | 180 | 160 | 213 | 137 | | |
| August..... | | 171 | | 160 | 210 | 135 | | 138 |
| September..... | 156 | 171 | | 160 | 210 | 132 | | |
| October..... | | 171 | 178 | 155 | 208 | 129 | | |
| November..... | | | | 155 | 208 | 126 | | |
| December..... | | | | | 205 | | | |

¹ December.² July.⁶ Quarter ending with month.⁸ June.⁹ November.¹⁰ September.

TABLE 4.—INDEX NUMBERS OF **COST OF FUEL AND LIGHT** IN THE UNITED STATES AND IN FOREIGN COUNTRIES, 1913 TO DECEMBER, 1930

| Country..... | United States | Canada | Belgium | Czechoslovakia | Denmark | Finland | France | Germany |
|------------------------|----------------------------|---------------------|--------------------------------|----------------------|--------------------------|---------------------------------|--|----------------------------|
| Number of localities.. | 32 | 60 | 59 | Prague | 110+ | 21 | Paris | 71 |
| Computing agency.... | Bureau of Labor Statistics | Department of Labor | Ministry of Labor and Industry | Office of Statistics | Department of Statistics | Central Statistical Office | Commission for Study of Cost of Living | Federal Statistical Bureau |
| Base period..... | 1913 | 1913 | 1921 | July, 1914 | July, 1914 | January-June, 1914 ^a | 1914 | 1913-14 |
| 1913..... | 100 | 100 | | | | | | |
| 1914..... | ¹ 101 | ¹ 98 | | ² 100 | ² 100 | ³ 100 | 100 | ⁴ 100 |
| 1915..... | ¹ 101 | ¹ 96 | | | ² 130 | | | |
| 1916..... | ¹ 108 | ¹ 109 | | | ² 175 | | | |
| 1917..... | ¹ 124 | ¹ 125 | | | ² 220 | | | |
| 1918..... | ¹ 148 | ¹ 146 | | | ² 275 | | | |
| 1919..... | ¹ 157 | ¹ 148 | | | ² 292 | | ³ 164 | |
| 1920..... | ¹ 195 | ¹ 200 | | | ² 563 | | ³ 296 | |
| 1921..... | ¹ 181 | ¹ 172 | 100 | | ² 401 | ¹ 1249 | ³ 308 | |
| 1922..... | ¹ 186 | ¹ 177 | ² 92 | | ² 301 | ¹ 1340 | ³ 287 | |
| 1923..... | ¹ 184 | ¹ 172 | ² 120 | 1041 | ² 282 | 1477 | ³ 317 | ¹ 177 |
| 1924..... | | | ² 127 | 881 | ² 298 | 1473 | | |
| December..... | 181 | 162 | 127 | 837 | | 1439 | ⁶ 368 | 137 |
| 1925..... | | | ² 113 | 829 | ² 252 | 1362 | | |
| December..... | 187 | 166 | 114 | 807 | | 1288 | ⁶ 402 | 142 |
| 1926..... | | | ² 144 | | ² 215 | 1271 | | |
| December..... | 188 | 162 | 206 | 814 | | 1389 | ⁶ 577 | 144 |
| 1927..... | | | ² 186 | | ² 201 | 1405 | | |
| December..... | 183 | 158 | 177 | 819 | | 1449 | ⁶ 555 | 146 |
| 1928..... | | | | | | | | |
| March..... | | 159 | 168 | 819 | | 1438 | ⁶ 547 | 146 |
| June..... | 177 | 158 | 170 | 819 | | 1436 | ⁶ 504 | 144 |
| September..... | | 157 | 170 | 842 | | 1429 | ⁶ 510 | 147 |
| December..... | 181 | 157 | 175 | 842 | | 1452 | ⁶ 515 | 151 |
| 1929..... | | | | | | | | |
| January..... | | 158 | 175 | 842 | 185 | 1450 | | 151 |
| February..... | | 158 | 175 | 842 | | 1446 | | 152 |
| March..... | | 158 | 184 | 842 | | 1456 | ⁶ 535 | 153 |
| April..... | | 158 | 187 | 842 | 190 | 1463 | | 151 |
| May..... | | 157 | 189 | 842 | | 1460 | | 149 |
| June..... | 175 | 157 | 194 | 842 | | 1456 | ⁶ 539 | 149 |
| July..... | | 157 | 198 | 842 | 185 | 1451 | | 149 |
| August..... | | 156 | 204 | 842 | | 1446 | | 150 |
| September..... | | 156 | 206 | 842 | | 1450 | ⁶ 569 | 151 |
| October..... | | 157 | 210 | 854 | 185 | 1458 | | 153 |
| November..... | | 157 | 211 | 854 | | 1453 | | 153 |
| December..... | 179 | 157 | 213 | ⁷ 125 | | 1455 | ⁶ 602 | 153 |
| 1930..... | | | | | | | | |
| January..... | | 157 | 214 | ⁷ 125 | 185 | 1452 | | 153 |
| February..... | | 157 | 215 | ⁷ 125 | | 1447 | | 154 |
| March..... | | 157 | 211 | ⁷ 125 | | 1433 | ⁶ 633 | 154 |
| April..... | | 157 | 207 | ⁷ 126 | | 1423 | | 152 |
| May..... | | 156 | 206 | ⁷ 126 | | 1416 | | 150 |
| June..... | 173 | 156 | 205 | ⁷ 126 | | 1407 | ⁶ 607 | 149 |
| July..... | | 156 | 205 | ⁷ 126 | | 1398 | | 150 |
| August..... | | 156 | 204 | ⁷ 126 | | 1397 | | 150 |
| September..... | | 156 | 198 | ⁷ 126 | | 1375 | ⁶ 615 | 152 |
| October..... | | 156 | 203 | ⁷ 126 | | 1354 | | 154 |
| November..... | | 156 | | ⁷ 126 | | 1327 | | |
| December..... | 175 | | | | | | | |

¹ December.² July.³ January-June.⁴ October, 1913; January, April, and June, 1914.⁵ April-June.⁶ Quarter ending with month.⁷ In gold.^a All figures except base year on paper basis.

TABLE 4.—INDEX NUMBERS OF **COST OF FUEL AND LIGHT** IN THE UNITED STATES AND IN FOREIGN COUNTRIES, 1913 TO DECEMBER, 1930—Continued

| Country..... | Italy | Norway | Poland | Sweden | Switzer- land | United King- dom | India | New Zealand |
|------------------------|--------------------------|----------------------------|----------------------------|-------------------------|----------------------|------------------------|------------------|------------------------------|
| Number of localities.. | Milan | 30 | Warsaw | 49 | 33 | 26-30 | Bombay | 4 |
| Computing agency.... | Municipal Administration | Central Statistical Office | Central Statistical Office | Board of Social Welfare | Federal Labor Office | Ministry of Labor | Labor Office | Census and Statistics Office |
| Base period..... | January-June, 1914 | July, 1914 | 1914 | July, 1914 | June, 1914 | July, 1914 | July, 1914 | July, 1914 |
| 1914..... | ¹ 100 | ¹ 100 | 100 | ² 100 | ² 100 | ² 100 | ² 100 | ² 100 |
| 1915..... | | | | | | | | 101 |
| 1916..... | | | | ¹ 168 | | | | 110 |
| 1917..... | | | | ² 240 | | | | 126 |
| 1918..... | ¹ 220 | | | ² 286 | | | | 136 |
| 1919..... | ² 220 | | | ² 326 | | | | 149 |
| 1920..... | ² 611 | | | ² 372 | | ² 230 | | 178 |
| 1921..... | ² 899 | | | ² 264 | 213 | ² 260 | ² 176 | 199 |
| 1922..... | 524 | 301 | | ² 188 | 181 | 202 | 168 | 183 |
| 1923..... | 529 | 282 | | ² 185 | 173 | 183 | 163 | 175 |
| 1924..... | 519 | | | ² 182 | 165 | ² 183 | | 174 |
| December..... | 515 | 307 | | | 161 | 185 | 167 | |
| 1925..... | 520 | | | ² 177 | 153 | ² 180 | | 174 |
| December..... | 533 | 232 | 106 | | 150 | 180 | 165 | |
| 1926..... | 523 | | | ² 168 | 146 | ² 195 | | 177 |
| December..... | 565 | 279 | 108 | | 146 | 250 | 166 | |
| 1927..... | | | | ² 176 | 142 | ² 170 | | 177 |
| December..... | 422 | 177 | 113 | | 141 | 170 | 156 | |
| 1928: | | | | | | | | |
| March..... | 407 | 176 | 115 | | 139 | 170 | 144 | |
| June..... | 407 | 171 | 124 | | 136 | 168 | 158 | |
| September..... | 407 | 166 | 123 | | 135 | 168 | 151 | |
| December..... | 408 | 163 | 137 | | 136 | 170 | 143 | |
| 1929: | | | | | | | | |
| January..... | 408 | 162 | 139 | 159 | 135 | 170 | 148 | |
| February..... | 425 | 164 | 141 | | 135 | 173 | 143 | 175 |
| March..... | 425 | 166 | 140 | | 135 | 173 | 143 | |
| April..... | 425 | 165 | 141 | 165 | 134 | 173 | 143 | |
| May..... | 425 | 162 | 141 | | 134 | 170 | 143 | 175 |
| June..... | 425 | 162 | 141 | | 134 | 170 | 143 | |
| July..... | 427 | 162 | 142 | 161 | 134 | 170 | 143 | |
| August..... | 427 | 163 | 142 | | 134 | 170 | 143 | 175 |
| September..... | 434 | 162 | 143 | | 134 | 170 | 143 | |
| October..... | 438 | 161 | 144 | 160 | 135 | 173 | 143 | |
| November..... | 438 | 161 | 149 | | 135 | 175 | 143 | 175 |
| December..... | 453 | 161 | 151 | | 135 | 175 | 143 | |
| 1930: | | | | | | | | |
| January..... | 453 | 161 | 152 | 160 | 135 | 175 | 143 | |
| February..... | 453 | 161 | 146 | | 134 | 175 | 143 | 175 |
| March..... | 453 | 160 | 146 | | 134 | 175 | 143 | |
| April..... | 460 | 159 | 146 | 160 | 133 | 175 | 143 | |
| May..... | 473 | 160 | 146 | | 132 | 170 | 143 | 175 |
| June..... | 473 | 159 | 147 | | 132 | 170 | 143 | |
| July..... | 474 | 158 | 148 | 159 | 132 | 170 | 143 | |
| August..... | 477 | 158 | 148 | | 131 | 170 | 143 | 175 |
| September..... | 477 | 157 | 148 | | 132 | 170 | 143 | |
| October..... | 477 | 155 | 150 | 156 | 131 | 173 | 141 | |
| November..... | | 153 | | | 131 | 173 | 141 | |
| December..... | | | | | | 175 | | |

¹ December.² July.³ January-June.⁴ June.⁵ September.

TABLE 5.—INDEX NUMBERS OF **COST OF RENT** IN THE UNITED STATES AND IN FOREIGN COUNTRIES, 1913, TO DECEMBER, 1930

| Country... | United States | Canada | Belgium | Czechoslovakia | Denmark | Finland | France | Germany | Italy |
|----------------------|----------------------------|---------------------|--------------------------------|----------------------|--------------------------|---------------------------------|--|----------------------------|--------------------------|
| Number of localities | 32 | 60 | 59 | Prague | 100+ | 21 | Paris | 71 | Milan |
| Computing agency | Bureau of Labor Statistics | Department of Labor | Ministry of Labor and Industry | Office of Statistics | Department of Statistics | Central Statistical Office | Commission for Study of Cost of Living | Federal Statistical Bureau | Municipal Administration |
| Base period | 1913 | 1913 | 1921 | July, 1914 | July, 1914 | January-June, 1914 ^a | 1914 | 1913-14 | January-June, 1914 |
| 1913 | 100 | 100 | | | | | | | |
| 1914 | ¹ 100 | ¹ 97 | | ² 100 | ² 100 | ³ 100 | 100 | ⁴ 100 | ⁵ 100 |
| 1915 | ¹ 102 | ¹ 94 | | | ² 100 | | | | |
| 1916 | ¹ 102 | ¹ 95 | | | ² 102 | | | | |
| 1917 | ¹ 100 | ¹ 102 | | | ² 105 | | | | |
| 1918 | ¹ 109 | ¹ 111 | | | ² 108 | | | | ² 100 |
| 1919 | ¹ 125 | ¹ 122 | | | ² 113 | | ³ 100 | | ² 100 |
| 1920 | ¹ 151 | ¹ 142 | | | ² 130 | | ⁵ 100 | | ² 108 |
| 1921 | ¹ 161 | ¹ 150 | 100 | | ² 141 | ¹ 603 | ⁵ 110 | | ² 139 |
| 1922 | ¹ 162 | ¹ 155 | ² 99 | | ² 155 | ¹ 795 | ⁵ 160 | | 202 |
| 1923 | ¹ 167 | ¹ 158 | ² 134 | 206 | ² 160 | 901 | ⁵ 200 | ¹ 22 | 234 |
| 1924 | | | ² 140 | 213 | ² 170 | 1088 | | | 328 |
| Dec. | 168 | 158 | 140 | 222 | | 1165 | ⁶ 200 | 69 | 393 |
| 1925 | | | ² 152 | 236 | ² 178 | 1224 | | | 414 |
| Dec. | 167 | 158 | 152 | 244 | | 1266 | ⁶ 220 | 89 | 477 |
| 1926 | | | ² 158 | 167 | ² 185 | 1306 | | | 517 |
| Dec. | 164 | 156 | 167 | 256 | | 1334 | ⁶ 250 | 105 | 638 |
| 1927 | | | ² 183 | | ² 189 | 1379 | | | |
| Dec. | 160 | 156 | 184 | 261 | | 1411 | ⁶ 275 | 125 | 400 |
| 1928: | | | | | | | | | |
| Mar. | | 156 | 209 | 261 | | 1411 | ⁶ 275 | 126 | 400 |
| June | 158 | 157 | 209 | 261 | | 1430 | ⁶ 275 | 126 | 400 |
| Sept. | | 157 | 210 | 278 | | 1430 | ⁶ 300 | 126 | 401 |
| Dec. | 156 | 157 | 211 | 278 | | 1430 | ⁶ 300 | 126 | 408 |
| 1929: | | | | | | | | | |
| Jan. | | 157 | 222 | 306 | 193 | 1430 | | 126 | 408 |
| Feb. | | 157 | 223 | 306 | | 1430 | | 126 | 408 |
| Mar. | | 157 | 223 | 306 | | 1430 | ⁶ 300 | 126 | 408 |
| Apr. | | 157 | 223 | 306 | 196 | 1430 | | 126 | 408 |
| May | | 158 | 223 | 306 | | 1430 | | 126 | 408 |
| June | 154 | 158 | 224 | 306 | | 1476 | ⁶ 300 | 126 | 408 |
| July | | 158 | 224 | 317 | 196 | 1476 | | 126 | 408 |
| Aug. | | 158 | 224 | 317 | | 1476 | | 126 | 408 |
| Sept. | | 158 | 224 | 317 | | 1476 | ⁶ 350 | 126 | 408 |
| Oct. | | 158 | 225 | 322 | 196 | 1476 | | 127 | 410 |
| Nov. | | 158 | 226 | 322 | | 1476 | | 127 | 410 |
| Dec. | 152 | 158 | 227 | ⁷ 47 | | 1476 | ⁶ 350 | 127 | 410 |
| 1930: | | | | | | | | | |
| Jan. | | 158 | 227 | ⁷ 50 | 196 | 1476 | | 127 | 410 |
| Feb. | | 158 | 405 | ⁷ 50 | | 1476 | | 127 | 410 |
| Mar. | | 158 | 405 | ⁷ 50 | | 1476 | ⁶ 350 | 127 | 410 |
| Apr. | | 158 | 406 | ⁷ 50 | | 1476 | | 128 | 410 |
| May | | 160 | 406 | ⁷ 50 | | 1476 | | 128 | 410 |
| June | 150 | 160 | 406 | ⁷ 50 | | 1467 | ⁶ 350 | 130 | 410 |
| July | | 160 | 406 | ⁷ 53 | | 1467 | | 130 | 422 |
| Aug. | | 160 | 406 | ⁷ 53 | | 1467 | | 130 | 422 |
| Sept. | | 160 | 406 | ⁷ 53 | | 1467 | ⁶ 350 | 131 | 422 |
| Oct. | | 160 | 405 | ⁷ 53 | | 1467 | | 131 | 422 |
| Nov. | | | | ⁷ 53 | | | | | |
| Dec. | 146 | | | | | | | | |

¹ December.² July.³ January-June.⁴ October, 1913; January, April, and June, 1914.⁵ April-June.⁶ Quarter ending with month.⁷ In gold.^a All figures except base year on paper basis.

TABLE 5.—INDEX NUMBERS OF **COST OF RENT** IN THE UNITED STATES AND IN FOREIGN COUNTRIES, 1913, TO DECEMBER, 1930—Continued

| Country..... | Norway | Poland | Sweden | Switzer- land | United Kingdom | India | Australia | New Zealand |
|------------------------|----------------------------------|----------------------------------|-------------------------------|----------------------------|----------------------|------------------|--|---------------------------------------|
| Number of localities.. | 30 | Warsaw | 49 | 27 | 20-30) | Bombay | 6 | 25 |
| Computing agency--- | Central Statistical Office | Central Statistical Office | Board of Social Welfare | Federal Labor Office | Ministry of Labor | Labor Office | Bureau of Census and Statistics | Census and Statistics Office |
| Base period..... | July, 1914 | January, 1914 | July, 1914 | June, 1914 | July, 1914 | July, 1914 | 1911 | July, 1914 |
| 1914..... | ⁸ 100 | 100 | ² 100 | ² 100 | ² 100 | ² 100 | 108 | ² 100 |
| 1915..... | | | | | | | | 101 |
| 1916..... | | | ¹ 108 | | | | | 101 |
| 1917..... | | | ⁵ 112 | | | | | 102 |
| 1918..... | ⁸ 111 | | ² 112 | | | | | 105 |
| 1919..... | ⁸ 123 | | ² 120 | | | | | 108 |
| 1920..... | ⁸ 147 | | ² 130 | | ² 118 | | | 114 |
| 1921..... | ⁸ 161 | | ² 155 | 138 | ² 145 | ² 165 | 141 | 126 |
| 1922..... | ⁸ 171 | | ² 163 | 146 | ² 153 | ² 165 | 149 | 136 |
| 1923..... | ⁸ 173 | | ² 163 | 150 | ² 148 | ² 165 | 155 | 148 |
| 1924..... | ⁸ 176 | | ² 178 | 155 | ² 147 | ² 165 | 162 | 160 |
| December..... | 176 | | | 158 | ² 147 | | | |
| 1925..... | | | ² 186 | 162 | ² 147 | ² 172 | 165 | 169 |
| December..... | 179 | 41 | | 163 | 148 | 172 | | |
| 1926..... | | | ² 188 | 166 | ² 150 | ² 172 | 168 | 180 |
| December..... | 179 | 44 | | 167 | 150 | 172 | | |
| 1927..... | | | ² 198 | 172 | ² 151 | ² 172 | 168 | 187 |
| December..... | 181 | 49 | | 174 | 151 | 172 | | |
| 1928..... | | | | | | | 174 | |
| March..... | 179 | 53 | | 174 | 151 | 172 | | |
| June..... | 179 | 56 | | 177 | 151 | 172 | | |
| September..... | 179 | 58 | | 177 | 151 | 172 | | |
| December..... | 179 | 58 | | 177 | 150 | 172 | | |
| 1929: | | | | | | | | |
| January..... | | 58 | 199 | 177 | 152 | 172 | | |
| February..... | | 58 | | 177 | 152 | 172 | | 190 |
| March..... | 175 | 58 | | 177 | 152 | 172 | | |
| April..... | | 58 | 200 | 177 | 152 | 172 | | |
| May..... | | 58 | | 181 | 153 | 172 | | 191 |
| June..... | 175 | 58 | | 181 | 153 | 172 | | |
| July..... | | 58 | 200 | 181 | 153 | 172 | | |
| August..... | | 58 | | 181 | 153 | 172 | | 192 |
| September..... | 175 | 58 | | 181 | 153 | 172 | | |
| October..... | | 58 | 200 | 181 | 153 | 172 | | |
| November..... | | 58 | | 181 | 152 | 172 | | 191 |
| December..... | 175 | 58 | | 181 | 152 | 172 | | |
| 1930: | | | | | | | | |
| January..... | | 58 | 200 | 181 | 152 | 172 | | |
| February..... | | 58 | | 181 | 152 | 172 | | 190 |
| March..... | 174 | 58 | | 181 | 152 | 172 | | |
| April..... | | 58 | 205 | 181 | 152 | 172 | | |
| May..... | | 58 | | 185 | 153 | 172 | | 189 |
| June..... | 174 | 58 | | 185 | 153 | 172 | | |
| July..... | | 58 | 205 | 185 | 153 | 172 | | |
| August..... | | 58 | | 185 | 153 | 172 | | 189 |
| September..... | 174 | 58 | | 185 | 153 | 172 | | |
| October..... | | 58 | 205 | 185 | 153 | 172 | | |
| November..... | | | | 185 | 153 | 172 | | |
| December..... | | | | | 154 | | | |

¹ December.² July.³ June.⁴ September.

International Middle-Class Living Costs

A STUDY prepared for Unilever (Ltd.), designed to ascertain the comparative cost of living for a middle-class English family in eight countries, has recently been published.¹ The inquiry was made with the idea of discovering, so far as possible, how much money an English family composed of a married couple, a boy of 15, and a girl of 11, accustomed to a standard of living made possible by a salary of £500 (\$2,433), £1,500 (\$7,300), or £3,000 (\$14,600) at home, would require in order to maintain a similar standard in Belgium, France, Denmark, Sweden, Norway, Netherlands, or Germany. The results do not, then, reflect the respective home standards of nationals in these countries, where custom may lead to quite different apportionment of a given annual income.

The estimated yearly expenditures of the family with an income of £500 are reproduced here.

ESTIMATED YEARLY EXPENDITURE REQUIRED TO MAINTAIN, IN CERTAIN EUROPEAN COUNTRIES, STANDARD OF LIVING PERMITTED IN ENGLAND ON SALARY OF \$2,433 PER YEAR

[Conversions on basis of pound = \$4.8665]

| Item | Eng-land | Bel-gium (Ant-werp) | France | Den-mark (Copen-hagen) | Swe-den (Stock-holm) | Nor-way (Oslo) | Neth-erlands (Rot-ter-dam) | Ger-many (Ber-lin) |
|--|----------|---------------------|--------|------------------------|----------------------|----------------|----------------------------|--------------------|
| Housekeeping: | | | | | | | | |
| Food..... | \$608 | \$438 | \$545 | \$647 | \$725 | \$735 | \$530 | \$667 |
| Servants, and household expenses not elsewhere specified..... | 146 | 112 | 136 | 151 | 161 | 156 | 137 | 161 |
| Clothing..... | 243 | 243 | 219 | 268 | 355 | 297 | 243 | 243 |
| Rent, property taxes, fire insurance, heat, light, and water..... | 535 | 487 | 657 | 730 | 920 | 730 | 521 | 954 |
| Taxes..... | 34 | 102 | 243 | 370 | 392 | 487 | 146 | 219 |
| Education..... | 146 | 97 | 97 | 170 | 195 | 161 | 97 | 146 |
| Sundries ¹ | 321 | 248 | 268 | 287 | 321 | 321 | 307 | 287 |
| Total..... | 2,034 | 1,728 | 2,166 | 2,623 | 2,969 | 2,886 | 1,971 | 2,677 |
| Surplus (for savings, life insurance, entertainments, recreation, etc.)..... | 399 | 399 | 399 | 399 | 399 | 399 | 399 | 399 |
| Grand total..... | 2,433 | 2,127 | 2,565 | 3,022 | 3,368 | 3,285 | 2,370 | 3,076 |
| Index number (England=100.0)..... | 100.0 | 87.4 | 105.4 | 124.2 | 138.4 | 135.0 | 97.4 | 126.4 |

¹ Includes traveling (to business, etc.), doctor, druggist, and dentist, subscriptions and charities, and other items, such as expenditures for tobacco, beverages, etc.

It will be noted from the table that with the exception of Belgium (index 87.4) and Netherlands (index 97.4), a larger income is required to meet all classes of expenditure in countries outside England than in England. The study also shows that the highest indexes are those for Sweden (138.4) and Norway (135.0).

Expenditures for food vary widely as between countries, food in Belgium (\$438), Netherlands (\$530), and France (\$545) costing less than in England (\$608) and in Sweden (\$725), and in Norway (\$735) over 20 per cent more. Expenditures for clothing are more uniform but again expenditures for clothing in the Scandinavian countries are much higher than in England. Rents, rates, property taxes, house insurance, heating, lighting, and water are generally higher outside

¹ The Economist (London), Nov. 8, 1930, pp. 846-848.

England, as is taxation also, in the latter instance the cost being as much as 14 times as great in one country (Norway) as in England. Education expenditures show no uniformity, the cost being less in Belgium, France, and Netherlands than in England, in Germany equal to that in England, and greater in Scandinavian countries.

Considering the statistics for servants and general household expenses not elsewhere included, the figures tend to show that lower expenditures for this type of service are found where the cost of other items is lowest, namely in Belgium, France, and Netherlands. Thus the real wages of household servants in the aforementioned countries may be as high as in the countries where actual wages are larger but cost of living higher.

Study of Family Budgets in New Zealand

FOR some time past the New Zealand Office of Census and Statistics has had under consideration the adoption of a new base for its retail-price index numbers, since the weights used in combining the index numbers of the various groups of expenditures in order to obtain the "all groups" indexes were taken from the results of a household budget inquiry made in 1911. A postwar basis seemed desirable, and it was determined to use the year 1930 for the purpose. This particular year was selected partly in deference to the advice of the International Labor Office, "which has urged all statisticians compiling index numbers of retail prices to adopt a 1930 base, so that future comparisons of the level of retail prices in the various countries may be more readily made."

Accordingly, early in the year account books were distributed through various channels to householders, who were urged to keep careful records of their expenditures for 13 consecutive weeks during March, April, May, and June, 1930. A summary of the results obtained from these is given in the November issue of the New Zealand official Monthly Abstract of Statistics.

In all, 318 budgets of sufficient accuracy and completeness for inclusion in the compilations were received. Although it was hoped that a larger number of completed account books would be returned, the result compares very favorably with the two previous budget collections made in this country, the number of booklets of practical value returned in 1910-11 being 69, and in 1919, 109.

The geographical distribution of the budgets was wide, covering not only the larger cities, but also small towns and rural localities. The average number of persons in the families covered was 4.33. As the average number in private dwellings with two or more occupants was given by the census of 1926 as 4.40, it was felt that the households represented were close to normal.

The actual figures of membership are: Two in family, 47; three, 61; four, 80; five, 60; six, 34; seven and over, 36. Of the heads of the households, 140 were in clerical occupations, 16 were farmers, 34 were laborers, 27 were salesmen and shop assistants, 82 were tradesmen, and 19 were in miscellaneous occupations. The average earnings of heads of households during the period covered were £5 6s. (\$25.79) per week; while the total family receipts per week for the same period were £5 19s. (\$28.96).

The following table shows the percentage that each of the more important groups of expenditures bears to the total expenditure; for purposes of comparison the results of the two earlier budget studies are given also. The number of budgets on which the table is based is 69 for 1910-11, 109 for 1919, and 318 for 1930.

TABLE 1.—DISTRIBUTION OF EXPENDITURES IN HOUSEHOLD BUDGETS AT SPECIFIED PERIODS

| Item | Per cent spent for each item in— | | |
|--------------------------------------|----------------------------------|--------|--------|
| | 1910-11 | 1919 | 1930 |
| Food..... | 34.13 | 38.32 | 29.52 |
| House rent..... | 20.31 | 13.07 | 21.93 |
| Clothing, drapery, and footwear..... | 13.89 | 15.86 | 12.61 |
| Fuel and light..... | 5.22 | 6.10 | 6.17 |
| Miscellaneous: | | | |
| Tobacco..... | 1.05 | 1.07 | 1.30 |
| Fares..... | 2.82 | 2.67 | 3.46 |
| Insurance..... | 2.47 | 2.93 | 3.78 |
| Sports and amusements..... | 1.62 | 1.79 | 2.20 |
| Other items..... | 18.49 | 18.19 | 19.03 |
| Total..... | 100.00 | 100.00 | 100.00 |

It will be noticed that the results in 1930 did not differ widely from those of 1910-11. The proportion spent for food was noticeably smaller in the later year, the percentage for housing shows a slight increase, the relative expenditure for clothing has dropped a little, and that for fuel and light and for miscellaneous items have both increased a trifle. The figures for 1919 are so affected by the war conditions as to be scarcely comparable with those for the two other investigations. In 1919 food was abnormally high, while rents had hardly begun to rise; fuel and light were responsible for a slightly larger, and miscellaneous items for a slightly smaller percentage of expenditure than in 1930.

The percentage of the total expenditure which in 1930 went for various items of food was as follows:

| | Per cent of total expenditure |
|---------------------------------|-------------------------------------|
| Bread..... | 3.23 |
| Flour..... | .87 |
| Meat..... | 5.62 |
| Bacon and ham..... | .90 |
| Milk..... | 3.57 |
| Butter..... | 3.57 |
| Sugar..... | 1.14 |
| Tea, coffee, and cocoa..... | 1.33 |
| Fresh vegetables and fruit..... | 3.45 |
| Other foods..... | 5.84 |
| Total for foods..... | 29.52 |

The figures given so far show the average expenditure in all households covered by the study for each item, the size of the households ranging from 2 to 10 persons. The following table shows the distribution of expenditure in households of different sizes. Owing to the small number of budgets received from households of from 7 to 10 persons, inclusive, separate figures are not given for these classes.

TABLE 2.—PERCENTAGE DISTRIBUTION OF EXPENDITURE ACCORDING TO SIZE OF HOUSEHOLD

| Number in household | Number of cases | Food | Rent | Clothing and drapery | Fuel and light | Miscellaneous | Total |
|---------------------|-----------------|------|------|----------------------|----------------|---------------|-------|
| 2..... | 47 | 24.9 | 25.8 | 11.5 | 6.2 | 31.6 | 100 |
| 3..... | 61 | 25.7 | 25.0 | 13.6 | 6.1 | 29.6 | 100 |
| 4..... | 80 | 29.0 | 22.4 | 11.9 | 6.3 | 30.4 | 100 |
| 5..... | 60 | 30.0 | 21.6 | 12.1 | 6.2 | 30.1 | 100 |
| 6..... | 34 | 32.6 | 20.0 | 13.2 | 6.0 | 28.2 | 100 |
| 7 and over..... | 36 | 37.4 | 14.9 | 14.0 | 6.0 | 27.7 | 100 |
| All families..... | 318 | 29.5 | 21.9 | 12.6 | 6.2 | 29.8 | 100 |

The proportion of expenditure on food is higher in large households than that in those of smaller size, the proportion increasing from 24.9 per cent in households of two members to 37.4 per cent in households of 7 members or more. As would be expected, the proportionate expenditure on housing shows a progressive decline as the membership of the household increases. The proportion expended on clothing, drapery, and footwear does not show any definite trend when considered in conjunction with the size of the household, the percentage varying between 11.5 and 14. The proportion of expenditure on fuel and light is practically constant for households of all sizes, varying between 6.0 and 6.3 per cent of total expenditure. The percentage of expenditure on miscellaneous items shows a definite decrease in the larger households, the maximum (31.6 per cent) being recorded in the case of households of two persons, while the minimum (27.7 per cent) is shown to have been expended by households of seven members or over.

In this connection, attention is called to the fact that there are apt to be more adults in the larger households than in the small ones, and that as the older children may buy all or part of their own clothing and pay for at least some of the miscellaneous items for their own use, the proportionate expenditure under these headings naturally decreases with the size of the household.

The amount of the family income is a factor naturally affecting its distribution. The following table shows the percentage distribution of the family income according to the size of the income, the term being used to cover all family receipts "including receipts from other members of the family and boarders in addition to the wages and other money receipts of the head of the household, but not including the value of home-grown produce."

TABLE 3.—PERCENTAGE DISTRIBUTION OF EXPENDITURES ACCORDING TO SIZE OF FAMILY INCOME

[Conversions into United States currency on basis of £=\$4.8665; shilling=24.33 cents]

| Family income per week | Number of cases | Food | Rent | Clothing and drapery | Fuel and light | Miscellaneous | Total |
|--------------------------------|-----------------|------|------|----------------------|----------------|---------------|-------|
| Under \$19.47..... | 22 | 35.9 | 26.1 | 10.0 | 6.7 | 21.3 | 100 |
| \$19.47 and under \$21..... | 19 | 35.6 | 24.8 | 9.2 | 7.6 | 22.8 | 100 |
| \$21.90 and under \$24.33..... | 28 | 34.3 | 22.3 | 11.0 | 7.5 | 24.9 | 100 |
| \$24.33 and under \$26.77..... | 43 | 30.7 | 22.3 | 11.1 | 6.6 | 29.3 | 100 |
| \$26.77 and under \$29.20..... | 60 | 28.7 | 21.2 | 13.1 | 6.0 | 31.0 | 100 |
| \$29.20 and under \$31.63..... | 52 | 29.1 | 22.5 | 12.8 | 5.9 | 29.7 | 100 |
| \$31.63 and under \$34.07..... | 42 | 28.8 | 23.4 | 13.0 | 5.9 | 28.9 | 100 |
| \$34.07 and over..... | 51 | 26.3 | 19.1 | 14.3 | 5.6 | 34.7 | 100 |
| Total, all incomes..... | 317 | 29.5 | 21.9 | 12.6 | 6.2 | 29.8 | 100 |

Some interesting facts are revealed by this classification. The proportion of expenditure on food steadily decreases as the total income of the family increases. The proportion spent on housing is greatest in the lowest-income group, and lowest in the highest-income group. The groups between £6 and £7 [\$29.20 and \$34.07] per week, however, show increases as compared with the immediately preceding groups. Expenditure on clothing, drapery, and footwear is higher proportionately in the higher-income groups than in the lower-income groups. Fuel and lighting is responsible for between 5.5 and 7.6 per cent of the total expenditure, the highest figure being recorded in the case of incomes of between £4 and £4 10s. [\$19.47 and \$21.90] per week, while successive decreases in the proportion spent on this item are shown to have occurred as the income increases beyond £4 10s. per week. Miscellaneous items are responsible for a steadily increasing proportion of family expenditure as the income rises, the variation between the lowest-income group and the highest being very considerable (21.3 per cent in the lowest and 34.7 per cent in the highest groups).

IMMIGRATION AND EMIGRATION

Statistics of Immigration for November, 1930

By J. J. KUNNA, CHIEF STATISTICIAN UNITED STATES BUREAU OF IMMIGRATION

THERE was a decrease in both the inward and outward passenger movement of aliens in November, 1930, as compared with the average for the preceding four months. In that month 22,241 aliens were admitted and 24,236 departed, while the monthly average for the period from July 1 to October 31, 1930, was 37,182 aliens admitted and 29,953 departed. The same month also saw a decline in debarments as well as in deportations. In November last 734 aliens were debarred from entering the United States and 1,405 were deported under warrant proceedings, against a monthly average for the first four months of the present fiscal year of 875 debarred and 1,431 deported.

Of the total admitted during November, 18,820 aliens, or over four-fifths, came in at the seaports and 3,421 entered the country at stations along the Canadian and Mexican borders. New York continues to be the principal port of landing for arrivals from overseas, 16,147, or 85.8 per cent, of the seaport admissions during this month being recorded as coming that way, while only 2,673 aliens entered at the other seaports.

Of the 734 aliens debarred this month, 635 were turned back at the land border stations and 99 at the seaports. Of the latter only 50 were rejected at New York and all but 5 of these arrived without proper immigration visas. At the other seaports, slightly less than 2 out of every 100 applicants in November failed to gain admission to this country, but the vast majority of these debarred were seamen or stowaways found on board tramp steamers and combination freight-passenger vessels who sought permanent entry to the United States without first securing visas abroad as required by the immigration act of 1924.

The figures for November, 1930, show a large decrease in immigration from Europe as well as from Canada and Mexico compared with the previous month, 6,814 immigrant aliens coming from Europe, 1,476 from Canada, and only 239 from Mexico, as against 9,698, 2,731, and 346 immigrants from these respective sources during October, 1930. Emigration to all countries also dropped from 5,352 to 4,951.

A little less than one-fourth of the 170,967 aliens of all classes admitted to the United States from July 1 to November 30, 1930, were immigrants charged to the quota, 40,989 being recorded as of this class. During the corresponding period a year ago 59,984 quota immigrants were admitted. Other principal classes entering the country from July to November last include 56,725 aliens who came in under

the immigration act of 1924 as returning residents, 28,970 as temporary visitors for business or pleasure, 13,774 as persons passing through the country on their way elsewhere, and 15,644 as natives of nonquota countries, principally Canada. The next largest group admitted during the five months comprised 9,766 aliens who were admitted under the act as the husbands, wives, or unmarried children of American citizens. In the five months from July to November, 1929, 16,896 aliens of the last-mentioned class entered the country.

INWARD AND OUTWARD PASSENGER MOVEMENT FROM JULY 1 TO NOVEMBER 30, 1930

| Period | Inward | | | | | Aliens de- barred from enter- ing ¹ | Outward | | | | | Aliens de- ported after land- ing ² |
|---------------|-----------------|------------------------|----------|--------------------------------|----------|---|-----------------|-----------------------|----------|--------------------------------------|----------|---|
| | Aliens admitted | | | United States citizens arrived | Total | | Aliens departed | | | United States citizens de- parted | Total | |
| | Immi- grant | Non- immi- grant | Total | | | | Emi- grant | Non- emi- grant | Total | | | |
| 1930 | | | | | | | | | | | | |
| July..... | 13, 323 | 16, 466 | 29, 789 | 38, 822 | 68, 611 | 881 | 4, 818 | 22, 588 | 27, 406 | 55, 366 | 82, 772 | 1, 440 |
| August..... | 14, 816 | 19, 724 | 34, 540 | 69, 957 | 104, 497 | 837 | 5, 245 | 29, 166 | 34, 411 | 88, 372 | 122, 783 | 1, 208 |
| September.... | 17, 792 | 29, 359 | 47, 151 | 80, 900 | 128, 051 | 929 | 5, 100 | 24, 604 | 29, 704 | 56, 526 | 86, 230 | 1, 552 |
| October..... | 13, 942 | 23, 304 | 37, 246 | 40, 702 | 77, 948 | 854 | 5, 352 | 22, 938 | 28, 290 | 32, 988 | 61, 278 | 1, 526 |
| November.... | 9, 209 | 13, 032 | 22, 241 | 22, 381 | 44, 622 | 734 | 4, 951 | 19, 285 | 24, 236 | 24, 420 | 48, 656 | 1, 405 |
| Total.. | 69, 082 | 101, 885 | 170, 967 | 252, 762 | 423, 729 | 4, 235 | 25, 466 | 118, 581 | 144, 047 | 257, 672 | 401, 719 | 7, 131 |

¹ These aliens are not included among arrivals, as they were not permitted to enter the United States.

² These aliens are included among aliens departed, they having entered the United States, legally or illegally, and later being deported.

BIBLIOGRAPHY

Five-Day Week and Other Recent Proposals for a Shorter Work Week: A List of References¹

Compiled by LAURA A. THOMPSON, LIBRARIAN, U. S. DEPARTMENT OF LABOR

Five-Day-Week Movement in the United States

ALEXANDER, MAGNUS W.

The five-day week in American manufacturing industries.

Index (Svenska Handelsbanken, Stockholm), October, 1930, v. 5, pp. 209-215.

By the president of the National Industrial Conference Board. Based on the survey made by the board in 1929. The conclusion reached is that the five-day week is "still to be considered an experiment, which in certain industries and under certain circumstances has demonstrated both practicability and usefulness."

AMERICAN FEDERATION OF LABOR.

Report of proceedings of 46th-50th annual conventions of American Federation of Labor. Washington, D. C., Law Reporter Printing Co., 1926-1930.

1926: Report of committee on the shorter workday and discussion on five-day week by Frey, Duncan, Green, and others, pp. 195-207. The convention declared for "a progressive shortening of hours of labor and the days per week" and for a campaign of education and organization.

1927: History of hours of labor, 1776-1926, pp. 60-62; Report of committee on shorter workday, pp. 398-400.

1928: Progress in five-day work week, p. 44. In adopting unanimously the report of the committee on shorter workday (pp. 186-188) the convention declared for an energetic campaign for the five-day work week as "socially, industrially and economically sound."

1929: Five-day week, vacations with pay, pp. 47, 48, 388, 389.

1930: Report of committee on shorter work week and discussion, pp. 60, 64, 260-267; Shorter working week for postal service, pp. 157, 243, 244; Saturday half holiday for Federal employees, pp. 240, 241.

— *Executive Council.*

Report of the executive council to the 50th annual convention, Boston, Oct. 6, 1930. 96 pp.

Report on the extent of five-day week by union organizations and by States, pp. 34-36. Of the estimate of 532,894 union members working on a five-day week basis, over 420,000 or 78 per cent are workers in the building trades, and 71,000 or 16 per cent workers in the clothing industry.

— *Building Trades Department.*

Report of proceedings of the 22d-24th annual conventions, 1928-1930.

1928: Five-day week, pp. 44, 45, 94.

1929: Five-day week, p. 47; Five-day week—objections filed by National Association of Building Trades Employers, p. 71.

1930: Five-day week, pp. 47, 63-67, 88. Of the 148 localities covered by the table of minimum scales of wages in building trades on an eight-hour basis, observance of the five-day week is indicated for 44 and partial observance for 56 cities and towns.

— *Railway Employees' Department.*

Official proceedings, eighth convention of Railway Employees' Department, American Federation of Labor, Apr. 28-May 1, 1930. Chicago, Ill.

Report of committee on stabilization of employment, and discussion, pp. 50-52, 85-94, 110-115.

Recommendation regarding 40-hour week adopted by convention, p. 111.

¹ A revision of the bibliography on "The five-day week in industry" in the Labor Review for January, 1927, pp. 237-241.

- AMERICAN NEWSPAPER PUBLISHERS' ASSOCIATION OPPOSED TO FIVE-DAY WEEK.**
Commercial and Financial Chronicle, May 24, 1930, v. 130, p. 3628.
- ARDEN, P. H.**
Considers the five-day week inevitable.
Iron Age, Jan. 27, 1927, v. 119, p. 313.
- ATTITUDE OF CERTAIN EMPLOYERS TO FIVE-DAY WEEK.**
Monthly Labor Review, December, 1926, v. 23, pp. 1168, 1169.
Views of Judge Gary, Charles Cheney, and Fayette R. Plumb.
- ATTITUDE OF ORGANIZED LABOR TOWARD THE SHORTER WORK WEEK.**
Monthly Labor Review, December, 1926, v. 23, pp. 1166-1168.
Text of resolution adopted by American Federation of Labor convention at Detroit in 1926 and statements of William Green and Sidney Hillman as reported in daily press.
- BALTIMORE & OHIO RAILROAD ADOPTS 40-HOUR WEEK INSTEAD OF 44-HOUR.**
Commercial and Financial Chronicle, June 7, 1930, v. 130, p. 3992.
- BARNEY, WILLIAM J.**
The five-day week.
General Building Contractor, July, 1930, v. 1, pp. 27-30.
- BARRINGER, E. C.**
Five-day week reality with Ford; six-day pay total being restored.
Iron Trade Review, Nov. 18, 1926, v. 79, pp. 1291-1296.
- BEECHER, BRYANT L.**
Five-day week for Chicago printers.
American Federationist, January, 1930, v. 37, p. 57.
On the contract between Chicago Typographical Union No. 16 and the Franklin Association of Chicago for a 5-day 40-hour week with increase in pay during the three summer months of 1931 and 1932 and year round thereafter.
- BEMAN, LAMAR T., comp.**
Five Day Week. New York, The H. W. Wilson Co., 1928. 150 pp. (The Reference Shelf, v. 5, No. 5.)
Bibliography, pp. [131]-141.
Contains affirmative and negative briefs for the five-day week, with bibliographies and excerpts from articles.
- BERRY, GEORGE L.**
Labor and five-day week.
American Labor World, March, 1927, v. 28, No. 3, pp. 7, 8.
Criticism of the plan by the president of the International Printing Pressmen and Assistants' Union of North America. See also New York Times, Feb. 6, 1927, sec. 8, p. 9.
- BINDER, CARROLL.**
[Three articles on the Ford five-day week plan.]
Washington Star, Nov. 9, 10 and 11, 1926.
Based on interviews with Henry Ford and his executives and with other employers and workers in Detroit.
- BOECKEL, RICHARD.**
... The five-day week in industry . . . [Washington] 1929, pp. 379-397.
(Editorial research reports.)
Discusses also the 10-hour and 8-hour movements and hours of work in basic industries.
- BOSTON FUR WORKERS WIN 40-HOUR OR FIVE-DAY WEEK AFTER FIVE WEEKS' STRIKE.**
Labor (Washington, D. C.), Nov. 20, 1926, p. 2.
- BOWERS, GLENN A.**
What of a five-day week?
Factory and Industrial Management, May-June, 1929, v. 77, pp. 993, 994, 1252.
"One thing at least is now apparent, namely, that the proposal for the five-day week is not to be lightly set aside as a fantastic dream of social reformers."
- BROTHERHOOD OF PAINTERS, DECORATORS AND PAPERHANGERS OF AMERICA.**
Reports of the general officers to the 12th general assembly, Dallas, Tex., September, 1921. Lafayette, Ind., 1921. 76 pp.
The secretary-treasurer reported (p. 39) the five-day week as in effect in 26 localities including New York, Philadelphia, Seattle, Tacoma, and Joliet. For text of resolution adopted indorsing five-day week of 40 hours as the objective of all local unions see its Proceedings, 1921, p. 156.
At the American Federation of Labor convention in 1926, the president of this brotherhood reported that about 35,000 of 125,000 members were working the five-day week (American Federation of Labor Proceedings, 1926, p. 196). The report of the executive council of the American Federation of Labor for 1930 (p. 34) reported 71,000 members of this organization as on a five-day week basis.

- BUILDING TRADES EMPLOYERS' ASSOCIATION, Cleveland, Ohio.
 Five-day week.
 (*In its mimeographed bulletin*, Oct. 14, 1926, No. 35, p. 1.)
 Urges support of the employers' organization as a means of preventing further extension of five-day week in the construction industry.
- BROWDER, EARL R.
 The five-day week.
Workers' Monthly, January, 1927, v. 6, pp. 695-697.
- BUDISH, JACOB M.
 Effect of five-day week, the economics of shorter hours.
Labor Age, July, 1928, v. 17, No. 7, pp. 2-4.
 — Wages and the five-day week; why shorter hours tend to increase wages.
Labor Age, August, 1928, v. 17, No. 8, pp. 10-12.
- BUILDING EMPLOYERS AND FIVE-DAY WEEK.
American Federationist, January, 1927, v. 34, pp. 22, 23.
 Editorial on the opposition of the National Association of Building Trades Employers to the 5-day week.
- BURKE, THOMAS E.
 First national agreement for the five-day week.
American Federationist, March, 1930, v. 37, pp. 279, 280.
 By the secretary of the United Association of Plumbers and Steamfitters on the agreement made with the National Automatic Sprinkler Association for a five-day week with 5½ days' pay for both sprinkler fitters and their helpers, effective May 1, 1930.
- BUSINESS WATCHES RELIEF, WEIGHS REMEDIES FOR UNEMPLOYMENT.
Business Week, Nov. 26, 1930, p. 24.
 Includes brief account of plan of Hudson Motor Car Co. for adopting 5-day week as permanent labor policy.
- Collier, Rex
 Secretary of Labor W. N. Doak champions five-day week.
Federal Employee, January, 1931, v. 16, pp. 9, 18.
 Reprinted from the *Washington Star*.
- COMING: A FIVE-DAY WORKING WEEK.
Literary Digest, Mar. 31, 1928, v. 96, pp. 12, 13.
 Also in *American Photo Engraver*, May, 1928, v. 20, pp. 557-559.
 Includes quotations from John J. Raskob, William Green, James J. Davis, and others.
- CROWTHER, SAMUEL.
 Is the five-day week practical? Interview with Henry Ford.
System, January, 1927, v. 51, pp. 7-9.
 — What is Henry Ford going to do?
American Review of Reviews, February, 1927, v. 75, pp. 147-153.
See also *World's Work*, October, 1926, v. 52, pp. 613-616; *Saturday Evening Post*, May 18, 1929, pp. 6, 7.
- DAVIS, JAMES J.
 Shorter workday advocated to solve employment problem.
United States Daily, Sept. 22, 1928, v. 3, No. 171, pp. 1, 3.
 — Shorter workday would relieve unemployment.
Commercial and Financial Chronicle, Aug. 9, 1930, v. 131, p. 859.
- DEBUNKING FORD'S FIVE-DAY WEEK.
Advance (Amalgamated Clothing Workers of America), Nov. 19, 1926, p. 11.
 On the effect on wages in the Ford plants.
- DE LEON, SOLON.
 The 5-day week. I. Why it is in order. II. Objections overruled.
Labor Age, April-May, 1927, v. 16, No. 4, pp. 11, 12; No. 5, pp. 11, 12.
- DENNISON, HENRY S.
 Would the five-day week decrease unemployment?
Magazine of Business, November, 1928, v. 54, pp. 508, 509, 619-622.
- DE VYVER, F. T.
 The five-day week.
Current History, November, 1930, v. 33, pp. 223-227.
- DOAK, WILLIAM N. *See* entry under Collier, Rex.
- EASTMAN [KODAK Co.] workers get five-day week.
New York Times, Nov. 18, 1930, p. 4.

ECONOMICS OF THE FIVE-DAY WEEK, SOCIAL ASPECTS OF QUESTION NOT THE DOMINANT FACTOR.

Iron Age, June 2, 1927, v. 119, pp. 1599, 1600.

ELECTRICIANS WIN SHORTER WEEK AND ADVANCE IN WAGES.

Labor, Jan. 19, 1929, v. 10, No. 21, p. 3.

Also in Christian Science Monitor, Jan. 14, 1929, p. 1.

EXTENT OF 5-DAY WEEK IN THE BUILDING TRADES.

Monthly Labor Review, March, 1930, v. 30, p. 637.

Compilation shows a total of 349,296 building-trades employees on 5-day week in 97 cities. In 17 cities, with 271,996 workers, all building trades were on the 5-day week basis.

EXTENT OF THE FIVE-DAY WEEK IN MANUFACTURING INDUSTRIES.

Monthly Labor Review, February, 1930, v. 30, pp. 368-371.

Summary of the report of the National Industrial Conference Board. Reprints list of representative companies operating on the 5-day week basis.

FEDERAL COUNCIL OF THE CHURCHES OF CHRIST IN AMERICA.

The five-day week.

(In its Information Service, Feb. 8, 1930, pp. 1-3.)

[FEISS, RICHARD A.]

Why it paid us to adopt the five-day week.

Factory, Aug. 15, 1920, v. 25, pp. 523-526.

Based on an interview with the general manager of Joseph & Feiss Co., Cleveland (men's clothing manufacturers), where the five-day week on a production basis was introduced in 1917. Advantages listed are saving of power, reduction in absenteeism, new sources of labor, more balanced production.

FELDMAN, HERMAN.

Regularization of employment. New York, Harper, 1925, 437 pp.

"Adjusting the hours of work," pp. 227-230.

FIND FIVE-DAY WEEK MAINTAINS OUTPUT.

American Photo Engraver, February, 1930, v. 22, pp. 223, 224.

Reprints article from New York Times reviewing report of the National Industrial Conference Board.

FIVE-DAY WEEK.

American Federationist, February, 1927, v. 34, pp. 146, 147; March, 1930, v. 37, p. 275.

Editorials on progress of movement.

THE FIVE-DAY WEEK.

Canadian Congress Journal, January, 1927, v. 6, No. 1, p. 30; May, 1930, v. 9, No. 5, pp. 36-38.

THE FIVE-DAY WEEK.

Industrial and Labour Information (International Labor Office, Geneva), Nov. 1, Dec. 6, 1926, v. 20, pp. 195, 196, 436-438; Feb. 14, 1927, v. 21, pp. 246-248.

FIVE DAYS SHALT THOU LABOR.

Literary Digest, May 18, 1929, v. 101, p. 8.

THE FIVE-DAY WEEK.

Manufacturers' Association Bulletin, May, 1927, v. 14, No. 7, pp. 9, 10.

FIVE-DAY WEEK.

Mining Congress Journal, October, 1927, v. 13, pp. 751, 752.

FIVE-DAY WEEK.

World's Work, July, 1930, v. 59, p. 23.

FIVE-DAY WEEK ADOPTED FOR BUILDING INDUSTRY; New plan effective August 24 also provides 10% increase in wages for 150,000 New York City workers.

Real Estate Record and Builders Guide, May 11, 1929, p. 7

FIVE-DAY WEEK SWINGS ACROSS THE CONTINENT.

Journal of Electrical Workers, June, 1929, v. 28, pp. 283-285.

"It [the movement for five-day week] represents organized labor's answer to mechanized production. It is labor's effort to secure a partial share in the leisure, wealth and culture created under new conditions in industry."

FIVE-DAY WORK WEEK ALREADY IN EFFECT AT MANY PLANTS.

Trades Union News (Philadelphia), Nov. 4, 1925, p. 5.

Includes quotations from statement by Frances Perkins, of the New York State Industrial Commission, at the Women's Industrial Conference, Washington, D. C., January, 1926.

Summary of address also in Monthly Labor Review for March, 1926, v. 22, p. 615.

- THE FIVE-DAY WEEK. Efficiency of production must be maintained. Index (New York Trust Co.), October, 1926, pp. 13-15.
- FIVE-DAY WEEK FOR GOVERNMENT EMPLOYEES.
Congressional Record, Dec. 10, 1930, v. 73 (current file), p. 495.
Statement from the American Federation of Labor; also editorial from the Washington Post, Dec. 10, 1930, and letter from president of Jewish Sabbath Alliance of America, Bernard Drachman. Introduced into Congressional Record by Senator Walsh of Massachusetts in support of S. 5100.
- THE FIVE-DAY WEEK IN INDUSTRY.
Typographical Journal, February, 1930, v. 76, pp. 130, 131.
- FIVE-DAY WORKING WEEK IS INDORSED BY MELLON. Secretary of U. S. Treasury takes stand in favor of plan recently adopted by Henry Ford. Statement by William Green.
Trades Union News (Philadelphia), Oct. 14, 1926, p. 16.
- FIVE-DAY WEEK THAT PAYS BOTH EMPLOYER AND EMPLOYEES.
Literary Digest, Oct. 2, 1920, v. 67, pp. 80-82.
- FIVE-DAY WORK WEEK UPHOLD IN RULING OF DISTRICT COURT. Attempt of New York contractors to enjoin law of painters' unions fails.
Labor, Oct. 23, 1926, p. 1.
See also report of case in Law and Labor, November, 1926, v. 8, pp. 296, 297.
- THE FIVE-DAY WEEK. Views of Ford, Gary, Green, and others; the true significance of the proposal and the limits of its practical application.
Industrial Management, November, 1926, v. 72, pp. 269-272.
Editorial analysis of the economic factors.
- FORD, HENRY.
The function of banking, by Henry Ford, as told to Samuel Crowther.
American Bankers' Association Journal, October, 1926, pp. 199-201, 250, 260.
According to this authorized interview, the Ford industries are committed to the policy of high pay and high leisure, "not on humanitarian grounds, but because without leisure the workingmen—who are the largest buyers in the country—can not have the time to cultivate a higher standard of living and therefore to increase their purchasing power." View expressed is that unless the shorter week is widely adopted producing power will run ahead of consumption.
See also "Mr. Ford's page" in issues of Dearborn Independent for October and November, 1926.
- Henry Ford: Why I favor five days' work with six days' pay.
World's Work, October, 1926, v. 52, pp. 613-616.
Authorized interview by Samuel Crowther. Discusses the economic value of leisure. Reprinted in Monthly Labor Review, December, 1926, v. 23, pp. 1162-1166. *See also* System, January, 1927, v. 51, pp. 7-9; World Today, December, 1926, v. 49, pp. 39-41.
- Moving Forward, by Henry Ford in collaboration with Samuel Crowther.
Garden City, N. Y., Doubleday Doran & Co., 1930. 310 pp.
"Unemployment and leisure," pp. 62-79; "Value of leisure," pp. 80-88.
"The five-day week is not the ultimate, and neither is the eight-hour day. . . . Probably the next move will be in the direction of shortening the day rather than the week," p. 88.
- Some things we are learning. Authorized interview by Samuel Crowther.
Saturday Evening Post, May 18, 1929, pp. 6, 7.
- 40-HOUR WEEK IS "GOOD BUSINESS" SAYS WOMAN EMPLOYER IN NEW YORK.
Labor, Nov. 20, 1926, p. 3.
Testimony of Mrs. Norman de R. Whitehouse before the New York State Industrial Survey Commission, Nov. 8, 1926.
- FOX, H. H.
Five-day work week leads to higher efficiency: Declares improvement in management and construction will partially offset increased building costs resulting from new pay schedules.
Real Estate Record and Builders Guide, Nov. 9, 1929, p. 6.
- FREEMAN, GEORGE.
The story of shorter days and the shorter week.
Advance, Dec. 3, 1926, pp. 6, 17.
Also in Canadian Congress Journal, February, 1927, v. 6, No. 2, pp. 25, 26; Illinois Miner, Jan. 29, 1927, p. 8.

FREY, JOHN P.

[Increase of labor productivity in the United States.]

(In American Federation of Labor. Proceedings, 1926, pp. 198-200.)
Speech in support of shorter work week.

— Labor's movement for a five-day week.

Current History Magazine, December, 1926, v. 25, pp. 369-372.

GEORGE, JEROME R.

Five-day week not a fool idea.

Industry (Associated Industries of Massachusetts), Nov. 13, 1926,
v. 18, No. 11 (cover).

Statement regarding the experience of the Morgan Construction Co., Worcester, in operating on basis of two 44-hour shifts, one of the shifts working only five days a week.

GOTTSCHALL, LOUISE Y.

The five-day week?

American Labor Legislation Review, March, 1930, v. 20, pp. 89-93.

Largely a review of the report of the National Industrial Conference Board.

[GREEN, WILLIAM.]

The five-day week.

American Federationist, November, 1926, v. 33, pp. 1299, 1300.

Editorial expressing the attitude of the American Federation of Labor. See also Address before the American Federation of Labor convention at Detroit in its Proceedings, 1926, pp. 205-207. Stresses the human value of leisure as well as its economic significance.

— The five-day week, by William Green. [New York, North American Review Corporation, 1926.] 9 pp.

Reprinted from the North American Review, December, 1926, pp. 567-574.

Reviews the history of the reduction of hours of labor in American industry and calls attention to the similarity between the arguments now being made against the 5-day week and those made by employers against the 10-hour day a century ago.

— The five-day week.

Canadian Congress Journal, June, 1927, v. 6, No. 6, pp. 21-24.

— The five-day week.

Illinois State Federation of Labor Weekly News Letter, Nov. 17, 1928, v. 14,
No. 33, p. 1.

— Five-day week to come in our times, Green prophesies.

Labor, Dec. 11, 1926, p. 1.

Excerpts from address before New York Building Congress, Dec. 8, 1926. Reported also in New York Times, Dec. 9, 1926, and in other daily papers.

— Less working hours is logical.

American Labor World, November, 1926, p. 20.

— Short work week not revolutionary; several industries can make change.
American Federation of Labor Weekly News Service, Oct. 9, 1926.

The mining, building, and automobile industries are the ones specially referred to as ready for the shorter work week.

— Shorter hours.

American Federationist, January, 1931, v. 38, p. 22.

Editorial advocating making the 5-day week universal as the most effective measure in the present unemployment emergency and as a stable basis for industry as depression recedes. See also radio address reported in American Federation of Labor Weekly News Service, Jan. 17, 1931.

— Two rest days goal of labor.

New York Times, June 2, 1929, sec. 9, p. 4.

Also in Philadelphia (Philadelphia Chamber of Commerce), June, 1929, p. 15.

HAIN, A. J.

Eyes of industry on Ford five-day-week experiment.

Iron Trade Review, Oct. 7, 1926, v. 79, pp. 907-909.

HEDGES, M. H.

Five-day week plus: A means to remedy unemployment.

Labor Age, June, 1928, v. 17, No. 6, pp. 12-14.

Raises the question, What can the five-day week do for labor and what is there it can not do?

HEDRICK, GEORGE F.

The five-day week.

Painter and Decorator, November, 1926, v. 40, No. 11, pp. 4, 5.

Statement of the president of the Brotherhood of Painters, Decorators and Paperhangers that out of a total membership of 125,000, about 35,000 were working the five-day week. This organization has recently established the five-day week in its own general offices.

- HEDRICK, GEORGE F. The five-day week.
American Labor World, December, 1926, pp. 24, 25.
- The growth of the 5-day week.
American Federationist, March, 1928, v. 35, pp. 299-302.
- HILLMAN, SIDNEY.
Five-day week urged to aid unemployed.
New York Times, Dec. 5, 1930, p. 3.
See also earlier statement quoted in Monthly Labor Review, December, 1926, v. 23, pp. 1167, 1168.
- HINES, H. C.
Deducting days from the working week.
Printer's Ink Monthly, April, 1927, p. 64.
- HOLDER, ARTHUR E.
All hail the five-day week.
Railroad Trainman, December, 1929, v. 46, pp. 1144, 1145.
- HOW THE FIVE-DAY WORK WEEK WORKS.
Literary Digest, Aug. 15, 1925, v. 86, pp. 10, 11.
On the investigation made by the New York World of all-day Saturday closing during July and August by mercantile and commercial concerns in 14 of the largest American cities.
- HOWARD, CHARLES P.
The permanent remedy for unemployment.
International Musician, December, 1930, v. 28, No. 6, p. 1.
- HUDSON [MOTOR CAR CO.] ORDERS FIVE-DAY WEEK.
New York Times, Nov. 4, 1930, p. 14; Business Week, Nov. 26, 1930, p. 24.
Adopted as a permanent labor policy after study of the economic and employment situation.
- INDUSTRY STUDIES ECONOMICS OF FIVE-DAY WORK WEEK.
Michigan Manufacturer and Financial Record, Aug. 9, 1930, p. 5.
- INDUSTRY TRIES THE FIVE-DAY WEEK: Employers divided on economy of plan; majority find it best in 48-hour week; aids labor supply.
Michigan Manufacturer and Financial Record, June 30, 1923, pp. 1, 2.
Discussion of answers to questionnaires sent out by Merchants' Association of New York.
- INTERNATIONAL PHOTO-ENGRAVERS' UNION OF NORTH AMERICA.
The five-day week in the photo-engraving industry, 1930. A comparison compiled in conjunction with the Labor Bureau (Inc.).
American Photo-Engraver, February, 1931, v. 23, pp. 221-243.
- IS THE 5-DAY WEEK PRACTICAL? PROS AND CONS.
System, January, 1927, v. 51, pp. 6-9.
Includes quotations from industrial leaders.
- JEWISH SABBATH ALLIANCE OF AMERICA (Inc.).
[Five-day week.]
Sabbath Bulletin, April, 1927.
CONTENTS: Progress of the five-day week movement, by William Rosenberg. Summary of the five-day week in the State of Massachusetts. Individual business firms not affected by unions adopted the five-day week system. Labor organizations of the United States who have embodied the five-day week in their agreements. Five-day week in England. Five-day working week, by Rev. Dr. Bernard Drachman.
See also letter from Dr. Bernard Drachman in Congressional Record, Dec. 10, 1930, p. 495.
- KING, WILLFORD I.
The five-day week.
Burroughs Clearing House, May, 1927, v. 11, No. 8, pp. 5-7, 51.
- KNAPPEN, T. M.
Can we work less and earn more?
Magazine of Wall Street, Feb. 26, 1927, pp. 788-791.
- LABOR BUREAU (Inc.).
The five-day week.
Facts for Workers, November, 1926, pp. 1, 2.
Brief review of the progress made toward shorter hours and particularly of the new arguments advanced in support of a five-day week.
- Five-day week gains.
Facts for Workers, January, 1930, pp. 1, 2.
Estimates the number of workers on 5-day week as in the neighborhood of 1,000,000.

LABOR NOW OUT FOR A FIVE-DAY WEEK.

Literary Digest, Oct. 16, 1926, v. 91, pp. 9-11.

Quotations from William Green, Henry Ford, E. H. Gary, James A. Emery, Secretary Mellon, Professor Carver, and others as reported in the daily press, with editorial comment.

LAUE, J. CHARLES.

Five-day week becomes a vivid issue. Labor's new campaign for shorter working period and its actual adoption in Ford plants raise basic questions of industrial policy.

New York Times, Oct. 17, 1926, sec. 9, pp. 1, 9.

Includes views of leaders for and against. Reprinted in American Photo Engraver, January-February, 1927, v. 19, pp. 112-114, 208-210.

LAUNCHING THE FIVE-DAY WEEK.

American Labor Legislation Review, December, 1926, v. 16, pp. 288-290.

LEISURE AND CONSUMPTION.

New York Times, Oct. 12, 1926, p. 28.

Editorial on the policy of Mr. Ford as given in an interview in the American Bankers' Association Journal, and on the action of the American Federation of Labor at its Detroit convention.

LYNCH, JAMES M.

The shorter workday.

American Federationist, March, 1926, v. 33, pp. 291-295.

— Shorter working-day urged as alleviation for depression cycles.

American Labor World, November, 1926, pp. 28, 29.

McNALLY, GERTRUDE M.

Five-day week is objective of National Federation [of Federal Employees].

Federal Employee, December, 1930, v. 15, No. 12, p. 4.

See also editorial in same issue, p. 4.

MANUFACTURERS DISCUSS FORD FIVE-DAY WEEK.

Iron Age, Oct. 28, 1926, v. 118, pp. 1201, 1202.

MENDELSON, SIGMUND.

Labor's Crisis; an Employer's View of Labor Problems. New York, The Macmillan Co., 1920. 171 pp.

"Economic effect of curtailed labor," pp. 53-63; "Can reduced hours advance the welfare of labor and society," pp. 64-70.

MERCHANTS' ASSOCIATION OF NEW YORK.

Manufacturers are divided on five-day week.

Greater New York, May 14, 1923, v. 12, No. 20, p. 8; May 21, 1923, No. 21, p. 27; June 25, 1923, No. 26, pp. 5-7.

Results of questionnaire sent out by industrial bureau of the Merchants' Association of New York to 40 establishments in 12 different lines of industry. The 34 manufacturers who had tried the plan for year-round operation were about evenly divided in their opinions.

Summarized in Monthly Labor Review for September, 1923, v. 17, pp. 652, 653.

MR. GREEN'S FIVE-DAY WEEK.

Coal Age, Oct. 28, 1926, v. 30, p. 592.

Editorial discussing the subject with particular reference to the coal industry.

MOSS, F. J.

The budget with five workdays per week.

Commerce and Finance, Nov. 3, 1926, v. 15, p. 2219.

MOVEMENTS TO ESTABLISH A FIVE-DAY WEEK IN THE PUBLISHING BUSINESS.

Printer's Ink, May 1, 1930, v. 151, p. 58.

MYERS, GUSTAVE.

Once dreaded output by machinery frees workers from long hours of toil in shop.

New York Herald Tribune, Oct. 17, 1926, Sec. III, p. 3.

NATIONAL ASSOCIATION OF BUILDING TRADES EMPLOYERS.

The five-day week in industry.

(In its Bulletin, Oct. 10, 1926, v. 4, No. 19, p. 1.)

Urges employers in the building trades to oppose further extension of the five-day week. See also its press release announcing conference at Pittsburgh, Dec. 13, printed in part in New York Times, Nov. 28, 1926, sec. 2, p. 1. Text of resolution adopted in New York Times, Dec. 14, 1926, p. 49. Five-day week regarded as impossible in the construction industry because it would further increase the cost of production, create an 'artificial labor shortage,' and "would have a disastrous effect on an industry already undermanned."

NATIONAL ASSOCIATION OF BUILDING TRADES EMPLOYERS. Five-day week survey. [Chicago, National Association of Building Trades Employers, 1928.]

Covers reports from 75 cities. Consensus of contractors reported as against the five-day week and some of the reasons enumerated. Painters recorded as on five-day week in 17 cities, plasterers and lathers in 16, bricklayers in 7, electricians in 5, and all building trades in 4 cities.

See also its Monthly Bulletin, October, 1929, p. 2. For later report on the building trades see American Federation of Labor executive council report, 1930, p. 34.

NATIONAL ASSOCIATION OF MANUFACTURERS.

Will the five-day week become universal? It will not.

(In its Pocket Bulletin, October, 1926, v. 27, No. 3, pp. 1-12.)

Symposium by presidents of various large industrial establishments. Some of the arguments advanced against the five-day week are that it would increase the cost of living, increase wages and decrease production, create a craving for additional luxuries, and make the United States more vulnerable to the economic onslaught of Europe.

NATIONAL INDUSTRIAL CONFERENCE BOARD.

The five-day week in manufacturing industries. New York, National Industrial Conference Board (Inc.), 1929. 69 pp.

A comprehensive survey of the operation of the five-day week, its administrative problems, and the experience of the 270 manufacturing industries operating under it. Appended is a list of representative companies. The report concludes that while the evidence does not warrant the conclusion that any and all industrial establishments could advantageously adopt the five-day week schedule, it "does, however, remove the five-day week from the status of a radical and impractical administrative experiment and places it among the plans which, however revolutionary they may appear to some, have demonstrated both practicability and usefulness under certain circumstances."

Summaries in Monthly Labor Review, February, 1930, v. 30, pp. 368-371; Index (Svenska Handelsbanken, Stockholm) October, 1930, v. 5, pp. 209-215; Information Service (Federal Council of the Churches of Christ in America), Feb. 8, 1930, pp. 1-3; Service Letter on Industrial Relations (National Industrial Conference Board), Jan. 5, 1930, pp. 1-3. See also comment in Commercial and Financial Chronicle, Dec. 28, 1929, v. 129, p. 4081; Economist, Jan. 18, 1930, v. 110, p. 123; Business Week, Dec. 25, 1929, p. 9, and other journals.

NEUTRAL VIEW OF INDUSTRIAL FIVE-DAY WEEK; textile manufacturer gives his experience with the experiment; tool maker tells of modifications which adapt the plan to his business and preserve benefits.

Greater New York, May 28, 1923, No. 22, p. 7.

NEW ERA, FIVE DAYS A WEEK.

Business Week, Sept. 7, 1929, pp. 5, 6.

NEW YORK PRINTERS REJECT FIVE-DAY WEEK PLAN.

Commercial and Financial Chronicle, Aug. 9, 1930, v. 131, p. 859.

NEW YORK (State). Department of Labor.

Annual report of the industrial commissioner. Albany, 1927. 454 pp.

"The five-day week," 1927, pp. 333-335.

— The industrial five-day week.

(In its Industrial Bulletin, August, 1925, v. 4, p. 284.)

Survey by the Bureau of Women in Industry of the movement in New York State toward Saturday closing during July and August in mercantile establishments and as a year-round measure in industry. Summarized in Monthly Labor Review for October, 1925, v. 21, pp. 747, 748.

NEW YORK STATE PUBLISHERS' ASSOCIATION OPPOSES FIVE-DAY WEEK.

Commercial and Financial Chronicle, Feb. 1, 1930, v. 130, pp. 712, 713.

NIEBUHR, REINHOLD.

Ford's five-day week shrinks.

Christian Century, June 9, 1927, v. 44, pp. 713, 714.

NORTON, HENRY KITTREDGE.

Staggered holidays.

Forum, June, 1930, v. 83, pp. 368-372.

Under the plan of "staggered" holidays here advocated, industry would run on a six-day basis with the crews on a five-day week, thus keeping up production while taking up the slack in the labor market and at the same time avoiding adding to the week-end rush.

NOTED ECONOMIST SAYS FIVE-DAY WEEK IS IMPERATIVE IN THE SOFT-COAL INDUSTRY.

Illinois Miner, Mar. 12, 1927, p. 1.

Views of Prof. Irving Fisher.

OLDS, LELAND.

Men's clothing industry leads in 5-day week.

Advance, Jan. 28, 1927, p. 4.

A PAINTER'S JEREMIAD.

Painter and Decorator, July, 1920, v. 34, p. 285.

Quotation from speech of Wm. E. Wall at annual convention of Society of Master House Painters and Decorators of Massachusetts in opposition to five-day week.

PATTERSON, S. HOWARD.

Social Aspects of Industry. A survey of labor problems and causes of industrial unrest. New York, McGraw Hill Book Co., 1929. 539 pp.

"Progress toward the eight-hour day and the five-day week," pp. 240, 241.

PAYNE, FREDERICK H.

Will five-day working week increase prosperity?

Industry (Associated Industries of Massachusetts), Apr. 21, 1928, v. 21, No. 8, cover.

[PEABODY, STUYVESANT.]

Coal "king" indorses shorter work week.

Labor, Jan. 6, 1931, p. 2.

News dispatch from Chicago quoting the head of the Peabody Coal Co. as stating he regards the five-day week as the next great economic development. "A five-day week should prove to be a great stimulant to American industry. It would result in a higher efficiency, employment of more people and would make for a happier structure of our industrial and commercial life."

PERSON, HARLOW S.

A new way of looking at the five-day week.

Survey, Jan. 15, 1929, v. 61, pp. 505-507.

— The work-week or the work-life? Suggestions concerning a more comprehensive approach to such problems as the shorter work-day and the shorter work-week [and discussion].

Bulletin of the Taylor Society, December, 1928, v. 13, pp. 230-248.

Reprinted in part in Survey, Jan. 15, 1929, v. 61, pp. 505-507; see also later discussions in Factory and Industrial Management, January, 1930, pp. 56-58, 82.

PHELPS, GEORGE HARRISON.

Our Biggest Customer. New York, H. Liveright, 1929. 192 pp.

Five-day week, pp. 157-161.

PHILADELPHIA INDUSTRIAL MEN EXPRESS OPPOSITION TO NEW LABOR UNION PROPOSAL FOR FIVE-DAY WEEK.

Philadelphia (Philadelphia Chamber of Commerce), December, 1926, pp. 5-7.

PRIOR, FREDERICK J.

The five-day week and unemployment.

Brotherhood of Locomotive Firemen and Enginemen's Magazine, March, 1929, v. 86, pp. 163-165.

PROGRESS OF THE FIVE-DAY WEEK.

Literary Digest, Jan. 25, 1930, v. 104, No. 4, p. 48.

Includes excerpts from the report of the National Industrial Conference Board's report on the five-day week and comments from newspapers.

PRINCETON UNIVERSITY. *Department of Economics and Social Institutions. Industrial relations section.*

Memorandum: The five-day week in industry; statements of fact and opinion, compiled by the industrial relations section, Princeton University, Princeton, N. J. Ann Arbor, Mich., Lithoprinted by Edwards Bros. [1930]. 28 numb. leaves.

Contains extracts from articles or books on the five-day week presenting the chief arguments for or against the policy, grouped under the outstanding phases of the subject. Short selected bibliography.

THE PROPOSED FIVE-DAY WEEK.

Industry, Oct. 23, 1926, v. 18, No. 8, cover.

Quotations from William Green, Elbert H. Gary, Henry Ford, and John E. Edgerton.

PURPOSE OF HENRY FORD'S FIVE-DAY WEEK.

Commerce and Finance, Oct. 20, 1926, p. 2126.

RASKOB, JOHN J.

What next in America.

North American Review, November, 1929, v. 228, pp. 513-518.

"In my opinion the next few years will see the comparatively rapid and all but universal adoption of the five-day week by the major industries."

[ROBINSON, JOSEPH T.]

Senator suggests 5-day week; machine causes unemployment.

American Federation of Labor Weekly News Service, Jan. 3, 1931, p. 1.

Quotation from speech of United States Senator Robinson at Little Rock, Ark. "To restore the equilibrium between labor supply and the demand for laborers, the industries of the United States may find it necessary to resort to the five-day week." *See also* speech in St. Louis, Jan. 21, 1931, reported in Labor, Jan. 27, 1931, p. 1, and daily press.

ROE, J. W.

Five-day week.

Coal Age, Nov. 18, 1926, v. 30, p. 698.

ROSENTHAL, OSCAR W.

Organized labor and the five-day week.

Manufacturers News, June, 1927, v. 31, No. 6, pp. 9, 10, 77-79.

Address before Chicago Rotary Club. *See also* address before the New York Building Congress, December, 1926, reported in Real Estate Record and Builders Guide, Jan. 22, 1927, p. 11.

SEVERAL THOUSAND CLOAKMAKERS WIN; GET HIGH WAGE AND 40-HOUR WEEK.

American Federation of Labor Weekly News Service, Nov. 20, 1926.

On the settlement of the cloakmakers' strike in New York City.

SHORTER HOURS.

American Federationist, January, 1931, v. 38, pp. 22, 23.

Editorial advocating making the five-day week universal as the most effective proposal for the present unemployment emergency and as a stable basis for industry as depression recedes.

THE SHORTER HOURS CURE FOR OVERPRODUCTION.

Literary Digest, Sept. 18, 1926, v. 90, p. 16.

SHORTER HOURS FOR LABOR.

Index (New York Trust Co.), January, 1930, v. 10, pp. 5-8.

In part a review of the report of the National Industrial Conference Board. Concludes with the statement that "while it is impossible to predict how extensively the five-day week will ultimately be applied, or even whether the many economic and social questions involved will permit of its general application, the experiment, though limited in scope, has in actual operation justified its use in certain cases and in others warrants serious consideration."

SILVERMAN, HARRIET.

Why the furriers need the 40-hour week. New York, Workers' Health Bureau of America, 1926. [4 pp.]

SMITH, ALFRED EMANUEL.

Unemployment [reprint of article in New York World, Jan. 4, 1931].

Congressional Record, Jan. 5, 1931, v. 73 (current file), pp. 1437, 1438.

"I think favorably of the shorter work week; five days' employment a week at the prevailing wage rate now paid for a 6-day week."

STARK, LOUIS.

Five-day week makes its way in industry.

New York Times, May 12, 1929, sec. 10, p. 4.

"Behind labor's pressure for the five-day week is the spectre of unemployment caused by revolutionary methods of production, the wider use of automatic and semi-automatic machinery, and the application of science to industry. *See also* article in New York Times, Oct. 12, 1930, sec. 8, p. 17.

STEFFLER, C. W.

Five days shalt thou labor.

Commerce and Finance, Oct. 6, 1926, v. 15, p. 2019.

— A shorter work-week or a shorter work-life.

Commerce and Finance, Dec. 26, 1928, v. 17, pp. 2739-2741.

STEWART, ETHELBERT.

Fewer hours and more work to cure labor ills.

United States Daily, May 3, 1930, v. 5, pp. 709, 718.

Also in Commercial and Financial Chronicle, May 17, 1930, v. 130, p. 3445.

"When we come to think in terms of production, instead of in terms of hours of labor, we will cease our opposition to a shorter work day and a shorter work week . . . The essence of the problem as I see it is: Can we continue to employ our people along our present lines of endeavor and with our present labor schedule?"

— Five-day week used in several industries.

United States Daily, Dec. 2, 1926, pp. 1, 3.

Excerpts from paper presented before convention of National Amusement Parks Association, Chicago, Dec. 1, 1926.

- STEWART, ETHELBERT. Ultimate effects of automatic machine production. *Monthly Labor Review*, March, 1929, v. 28, pp. 464-467.
Extracts from address delivered at Cornell University, Jan. 21, 1929.
- STRIKE SETTLED—PREVIOUS GAINS LOST.
Fur Worker, June, 1926, pp. 1, 2.
Analysis of the changes made by the new agreement. Provides 40-hour week for eight months in year for New York fur workers.
- TAPESTRY PLANTS ADOPT FIVE-DAY WEEK.
Commercial and Financial Chronicle, Feb. 1 1930, v. 130, p. 713.
- TOBIN, DANIEL J.
Labor gain seen in five-day week.
American Labor World, April, 1927, v. 28, No. 4, pp. 24, 25.
- TRACEY, WILLIAM.
Chicago brickmakers win five-day week.
American Federationist, September, 1929, v. 36, p. 1050.
- TWO DAYS' RESPITE IN SEVEN.
Manufacturers' News, Aug. 28, 1925, p. 6.
- TRUTH ABOUT THE FIVE-DAY WEEK. Attempt to prejudice public against building craftsmen. Forty-five year age limit makes shorter work week necessary.
Tri-City Labor Review (Rock Island and Moline, Ill., and Davenport, Iowa), Apr. 12, 1929, pp. 1, 4.
- UNITED MINE WORKERS OF AMERICA.
The case of the bituminous coal mine workers as presented to the President's Coal Commission appointed December, 1919. Washington, D. C., United Mine Workers of America, 1920. 78 pp.
One of the demands made was for a six-hour day and five-day week as a means of regularizing mining operations.
- UNITED STATES. *Bureau of Labor Statistics*.
Handbook of labor statistics, 1924-1926. Washington, 1927. 828 pp. (Bulletin No. 439.)
"Five-day week in American industry," pp. 811-818.
Survey by industries. Includes also sections on "Optional five-day week," "Five-day week without reduction in total hours," "The five-day week in summer."
——— Prevalence of the five-day week in American industry.
[Washington, 1927.] 24 pp.
Reprinted from the *Monthly Labor Review* for September, 1923, December, 1926, and January, 1927.
CONTENTS: Prevalence of the five-day week in American industry. The five-day week in the Ford plants. Attitude of organized labor toward the shorter work week. Attitude of certain employers to five-day week. The five-day week in industry. The five-day week in industry: A list of references, compiled by Laura A. Thompson.
For later surveys of progress of five-day week see *Monthly Labor Review*, June, 1929, v. 28, pp. 1181-1190; March, 1930, v. 30, p. 637.
——— Progress of the five-day week.
Monthly Labor Review, June 1929, v. 28, pp. 1181-1190.
Brings up to date article on "The prevalence of the five-day week" in the *Monthly Labor Review* for December, 1926, v. 23, pp. 1153-1162. Based on the studies of the bureau on wages and hours in various industries, its studies of collective agreements among the organized trades, and various items from trade journals.
——— Trade agreements, 1923/1924-1927. Washington, 1925-1928. 4 v. (Its Bulletins Nos. 393, 419, 448 and 468.)
Some of the agreements included in these reports and in current issues of the *Monthly Labor Review* contain provisions for a five-day week for whole or part of year.
- VERNON, HORACE M.
The determination of the optimum hours of work with special reference to the five-day week.
(In *International Industrial Relations Association. Rational organization and industrial relations. A symposium . . . 1929.* pp. 53-61.)
"References," p. 61.
- WALSH, DAVID I.
Relief of unemployment—a 5-day week.
Congressional Record, Dec. 8, 1930, v. 73 (current file), pp. 298-305.
Speech in Senate in support of bill S. 5100, to provide a 5-day week without loss of pay for all Government employees for 12 months in order to give employment to more workers.

[WATSON, JAMES E.]

Senator Watson advocates five-day week.

Railway Post Office, November, 1930, v. 32, No. 4, p. 15.

WEINZWEIG, IRVING.

Ford's five-day work week. Some facts about the much-talked-of but little-explained reduction.

Advance, Oct. 22, 1926, p. 10.

Regards the reduction as forced by declining sales and the whole plan a "gigantic publicity stunt."

WHAT ABOUT THE FIVE-DAY WORKING WEEK; SOME WEAK POINTS.

Commercial West, Dec. 4, 1926, p. 23-.

WISE, JOSEPH A.

Ford's five-day week vehicle to sell "Lizzies."

Union Reporter (Canton, Ohio), October, 1926, v. 25, No. 10, p. 1.

WRIGHT, CHESTER M.

Epoch-making decisions in great American Federation of Labor convention at Detroit.

American Labor World, November, 1926, pp. 22-24.

Includes section on shorter work week.

YOUNG, ARTHUR H.

The five-day week.

Society of Industrial Engineers' Bulletin, July, 1927, pp. 3-10.

Address before the Society of Industrial Engineers, Chicago, May 26, 1927.

Also in Manufacturers News, October, 1927, v. 32, No. 4, pp. 17, 18, 55, 56.

Other Recent Proposals for Shorter Work Week

AMERICAN FEDERATION OF LABOR. *Metal Trades Department.*

Proceedings of the 22d annual convention of the Metal Trades Department of the American Federation of Labor, Boston, Oct. 1-3, 1930. 77 pp.

The report on the shorter workday (pp. 12-14) includes a brief review of the increase in use of power and machinery. Discussions by O'Connell, Wharton and Frey, pp. 49-53. The convention declared in favor of the establishment of a 5-hour day with the operation of two, three or more shifts of 5 hours each in such industries as require more than 5 hours, production per day. See also discussion of proposal in the Proceedings of the American Federation of Labor convention, 1930, pp. 262-266, and editorial in Nation, Oct. 15, 1930, p. 393.

BROTHERHOODS CONSIDERING SIX-HOUR DAY PROPOSALS.

Railway Age, Nov. 15, 1930, v. 89, pp. 1051, 1052.

Includes summary of plan proposed Nov. 10, 1930 by Milton W. Harrison, president of the National Association of Owners of Railroad and Public Utilities Securities for inaugurating a six-hour day on the railroads without increasing substantially the wage bill of the carriers.

THE CHICAGO CONFERENCE.

Brotherhood of Locomotive Firemen and Enginemen's Magazine, December, 1930, v. 89, pp. [453]-456.

Includes review of the movement for shortening the workday of railroad employees.

THE FIRST STATE PROGRAM FOR EMPLOYMENT [NEW YORK].

Survey, Dec. 1, 1930, v. 65, pp. 257-260, 290.

"Using the flexible working-day instead of the lay-off," p. 260.

FORD'S TEN-MONTH YEAR FORECAST.

Literary Digest, August 30, 1930, v. 106, No. 9, p. 10.

[GOODYEAR TIRE & RUBBER CO.]

Industry (Associated Industries of Massachusetts), Jan. 3, 1931, p. 1.

Telegram from P. W. Litchfield, president of the Goodyear Tire & Rubber Co., stating that Goodyear at its Akron plants went onto basis of 4 shifts per day, 6 hours each, in order to distribute employment over as many employees as possible. Experiment being analyzed carefully "and our future policy when normal employment conditions return will be based on the results of our experiment."

HEADS OF RAILROAD BROTHERHOODS ENDORSE SIX-HOUR DAY WITH NO REDUCTION IN DAILY WAGE RATE.

Commercial and Financial Chronicle, Nov. 29, 1930, v. 131, pp. 3469, 3470.

HOGAN, E. K.

Stabilization of employment of railway employees.

American Federationist, August, 1930, v. 37, pp. 920-922.

Advocates reduction in hours, and vacations with pay. See also Editorial in June, 1930 issue, p. 661.

[KELLOGG Co.]

Kellogg strikes at unemployment. Changes to 6-hour day, working four shifts—increases number of workers 25%—raises base rate 12½%.

Industry, (Associated Industries of Massachusetts), Jan. 3, 1931, pp. 1, 2.

Includes comment on the plan. Also in *Factory and Industrial Management*, December, 1930, v. 80, pp. 1148 A-B. See also *Monthly Labor Review*, January, 1931, p. 60.

LABOR ASKS FOR GENERAL CONFERENCE ON RAILWAYS.

Railway Age, Nov. 29, 1930, v. 89, pp. 1191, 1192.

Discussion of the six-hour day proposed by the railway unions.

LINN, G. L. E.

Five-and six-day week schedules for power-plant operators.

Power, June 10, 1930, v. 71, pp. 913, 914.

LOREE, LEONAR F.

Stabilizing employment by an elastic workday; a unique plan for regulating working hours to conform with fluctuations in business.

Industrial Management, March, 1927, v. 73, pp. 129-134.

— How we have stabilized employment.

Connecticut Industry, December, 1930, pp. 5-9, 21.

The elastic workday, pp. 8, 9. Experience of the Delaware & Hudson Co.

LUHRSEN, J. G.

The shorter workday in 1931 is worthy and attainable objective.

Train Dispatcher, January, 1931, v. 13, p. 4.

MANION, E. J.

Why the six-day week?

American Federationist, September, 1929, v. 36, pp. 1051-1053.

On the efforts of the railroad telegraphers to secure a six-day week instead of the existing seven-day schedule.

NEW YORK (State). *Committee on stabilization of industry for the prevention of unemployment.*

Stabilized employment, Part I. Report to Honorable Franklin D. Roosevelt, governor of the State of New York, Nov. 13, 1930. 20 l.

Section IV is on using the flexible working week instead of the lay-off. Reprinted in *Monthly Labor Review*, January, 1931, pp. 61-74.

RAIL WORKERS ASK 6-HOUR DAY; CAMPAIGN WILL LAST FOR YEARS.

Business Week, Nov. 5, 1930, p. 8.

See also issue for Dec. 3, 1930, p. 9.

RYAN, JOHN A.

Thirty-five hour work week offered by church statesman.

Canadian Congress Journal, September, 1930, v. 9, No. 9, pp. 23-26.

From the *Journal of Electrical Workers and Operators*.

— Unemployment; what can be done about it? Washington, D. C., National Catholic Welfare Conference, Social action department, 1929. 30 pp.

"Reduced working time," pp. 24-30. See also *Commonweal*, Oct. 23, 1929, p. 636.

SLOBODIN, HARRY L.

Sabbatical year for all workers.

American Federationist, May, 1930, v. 37, pp. 558-560.

See also article on "Unemployment or leisure—which?" in same journal, October, 1930, v. 37, pp. 1205-1208.

SOME COMMENTS ON THE SIX-HOUR DAY.

Railroad Trainman, January, 1931, v. 48, pp. 22, 23.

STARK, LOUIS.

Rail unions agree on shorter hours.

New York Times, Dec. 11, 1930, p. 48.

See also Dec. 9, 1930 issue, p. 3.

The program agreed upon at conference in Washington of the representatives of the Railway Labor Executives Association calls for starting movement for six-hour day for men in transportation service and a five-day week in shop and maintenance-of-way service.

SYSTEMATIC RECREATION AND THE TEN-MONTH WORKING YEAR.

Engineering and Mining Journal, Sept. 8, 1930, v. 130, p. 209.

TOWARDS SHORTER HOURS.

Brotherhood of Locomotive Firemen and Enginemen's Magazine, January, 1931, v. 90, p. 9.

News items regarding various experiments.

TRAIN AND ENGINE SERVICE MEN DECLARE FOR THE SIX-HOUR WORKDAY.

Labor, Nov. 25, 1930, v. 12, No. 13, pp. 1, 3.

Report of the Chicago meeting of the five train and engine service organizations which agreed upon a campaign for a 6-hour day without reduction in pay to provide employment for displaced workers. A later conference in Washington is reported in Labor, Dec. 16, 1930, p. 1.

See also "Displacement of railroad labor" by Ethelbert Stewart in Monthly Labor Review, March, 1929, v. 28, pp. 467-470.

UNIONS UNITE FOR SHORTER HOURS.

Locomotive Engineers' Journal, January 1931, v. 65, p. 27.

Text of statement issued after the Washington conference of the 21 standard railroad labor organizations. Also in Railway Maintenance-of-Way Employees' Journal, January, 1931, v. 40, p. 1.

UNIONS WORKING LESS THAN FORTY-EIGHT HOURS ON NEWSPAPERS.

Bulletin (International Typographical Union), October, 1930, v. 18, pp. 257-262.

Includes comparison with working hours in 1920; also report on unions working less than 44 hours on commercial work.

UNITED STATES. *President's Emergency Committee for Employment.*

Outline of industrial policies and practices in time of reduced operation and employment. Washington, 1931. 5 pp.

The elastic work day or week is one of permanent policies suggested.

UPDEGRAFF, R. R.

Six-hour day for business executives.

Magazine of Business, September, 1928, v. 54, pp. 238-240.

VANCE, MATTHEW.

Thirty-hour week must come if prosperity is to continue in America.

United Mine Workers' Journal, Oct. 15, 1930, v. 41, No. 20, p. 15.

From the Upholsterers' Journal.

WINKEL, MAX G.

The 4-hour day: A possibility.

American Federationist, September-October, 1930, v. 37, pp. 1093-1099, 1220-1226.

In the view of this author a standard workday of 4 hours or less for all classes of workers will soon be possible without in any way lowering the present standard of living and without the use of radical or revolutionary methods, but can be gained by the elimination of waste of all kinds. Reprinted in part in Elevator Constructor, January, 1931, v. 28, pp. 7, 8.

Saturday Half Holiday for Federal Employees

AMERICAN FEDERATION OF LABOR.

Report of the proceedings of the 50th annual convention, Boston, 1930.

Resolution favoring bill providing for 4-hour day on Saturdays throughout the year for all Federal employees, pp. 240, 241; resolution favoring shorter work week for postal employees, pp. 243, 244. See also editorial in support of Saturday half holiday for Government employees in American Federationist, January, 1931, p. 21 and press release printed in Congressional Record, Dec. 10, 1930, p. 495.

BUCK, ROBERT M.

[Articles on Saturday half holiday in Government departments.]

Congressional Record, Dec. 15, 1930, v. 73 (current file), pp. 697-699.

Introduced by Senator McKellar in support of S. Res. 369.

CAIN, GEORGE L.

Statement of Mr. George L. Cain, president of the National League of Government Employees . . . relative to the Saturday half holiday throughout the country.

(In *United States Congress. House. Committee on Reform in the Civil Service. Retirement of employees . . . Hearing . . . Apr. 28, 1916*, pp. 126-157.)

FORTY-FOUR HOUR WEEK BILL—FIVE-DAY WEEK PROPOSAL.

Machinist's Monthly Journal, January, 1931, v. 43, p. 32.

LABOR BUREAU (Inc.).

A five and a half day week for Government printers.

Facts for Workers, April, 1928, p. 2.

Summarizes case for the printers from brief prepared by the Labor Bureau (Inc.).

McNALLY, GERTRUDE M.

Five-day week is objective of National Federation.

Federal Employee, December 1930, v. 15, No. 12, pp. 4, 17.

Includes brief review of efforts to secure Saturday half holiday by Executive Order and by legislation.

MASSACHUSETTS. *Commission on Economy and Efficiency.*

Report . . . relative to the hours of labor of public employees and to Saturday half holidays. Submitted . . . January, 1916. Boston, 1916. 58 pp. (House No. 1672.)

NATIONAL ASSOCIATION OF LETTER CARRIERS.

Brief in support of a shorter workday on Saturday, submitted by the council of administration, National Association of Letter Carriers . . . [Washington, D. C., 1930.] 40 pp.

PARTIAL CONTENTS: Extent of shorter hours on Saturday. Quotations from authorities on desirability of shorter hours. List of companies operating on a regular five-day work week. Union crafts having 44-hour week. Union crafts having less than 44-hour week.

SHORTENING THE EMPLOYEE'S WORK WEEK.

Federal Employee, January, 1931, v. 16, pp. 7, 8.

Excerpts from addresses of President Green of the American Federation of Labor and Representative McCormack at meeting in auditorium of Interior Department building Dec. 5, 1930 to discuss the shorter work week for government workers.

SHORTER HOURS FOR THE GOVERNMENT.

American Federationist, January, 1931, v. 38, p. 21.

Editorial in support of bill for Saturday half-holiday throughout the year in the Government departments but also advocating adoption of five-day week.

UNITED STATES. *Bureau of Labor Statistics.*

Laws relating to the Saturday half holiday.

Monthly Labor Review, September, 1930, v. 31, pp. 619-621.

Tabular analysis of State laws applying to Saturday half holidays.

— *Congress.*

S. 471, providing Saturday half holidays for certain Government employees. Congressional Record, v. 72, pp. 6246, 9110, 10412, 10433-10435.

S. 471 which provided a 44-hour week for all laborers, helpers, skilled and semiskilled workers and mechanics exclusive of employees of the Postal Service and of the Government Printing Office passed the Senate without debate Apr. 1, 1930. Reported favorably in House with amendment May 16, 1930, broadening scope of bill to provide Saturday half holidays throughout the year for civil employees of the Federal Government and the District of Columbia, exclusive of the Postal Service. Debated in House of Representatives June 10, 1930. Action deferred pending report requested of Director of the Budget by Mr. Tilson as to additional cost of the legislation.

— — H. R. 6603, to provide a shorter workday on Saturday for postal employees. Debate in House of Representatives.

Congressional Record, Dec. 10, 1930, v. 73 (current file), pp. 512-528.

Passed House (without dissenting vote) Dec. 10, 1930. In Senate referred to Committee on Post Offices and Post Roads, Dec. 15, 1930. Reported by Senator Oddie without amendment, Dec. 18, 1930. Calendar No. 1232. Digest of speeches in support of bill in House in Railway Post Office, January, 1931, pp. 11-13. See also editorial in same issue, pp. 24, 25.

— — *House. Committee on Post-office and post-roads.*

Shorter workday on Saturday for postal employees. Hearings before subcommittee 70th Congress, 1st session, on H. R. 6505 and H. R. 9058, May 10-12, 1928. Washington, 1928. 27 pp.

— — — — Forty-four-hour week in postal service. Report [and minority views] to accompany S. 3281. Washington, 1929. (H. rp. 2449, 2 pts., 70th Cong., 2d sess.)

— — — *Committee on Printing.* Saturday half holiday at the Government Printing Office. Hearing . . . S. 2440, an act to provide that four hours shall constitute a day's work on Saturdays throughout the year for all employees. Washington, 1929. 61 pp.

Hearing of Jan. 18, 1929. Passed Senate without debate May 16, 1928. No action taken in House before end of 70th Congress.

- UNITED STATES. *Congress. Senate. Committee on post offices and post roads.*
 Shorter workday on Saturday for postal employees. Report to accompany
 S. 3281. Washington, 1928. 2 pp. (S. rp. 990, 70th Cong. 1st sess.)
 Passed the Senate without debate May 10, 1928. For brief debate in House (without action)
 see Congressional Record, v. 70, part 4, p. 4280.
- *Department of justice.*
 Official opinions of the attorneys-general of the United States advising the
 President and heads of departments in relation to their duties. Wash-
 ington.
 Opinion on "Hours of labor in the executive departments" by Acting Attorney-General McRey-
 nolds August 15, 1903, advising the Secretary of War that "every Saturday after twelve o'clock noon
 is a holiday for all purposes within the District of Columbia and is, therefore, one of the "days
 declared public holidays by law" within the meaning of the statutes regulating the number of
 hours of labor in executive departments: v. 25, pp. 40-45.

Shorter Work Week Movement In Other Countries

- AMERICAN FEDERATION OF LABOR. *Building Trades Department.*
 Report of proceedings of the 24th annual convention . . . Boston, October,
 1930.
 Of the seven Canadian cities included in list of localities for which the minimum scale of
 wages in the building trades is given, observance of five-day week is indicated for Vancouver
 and Victoria, and partial observance for Toronto and Hamilton, Ont.
- BATÁ'S FIVE-DAY WEEK IS TEST OF FORD METHODS IN EUROPE.
 Business Week, Oct. 29, 1930, pp. 8, 9.
 On the five-day week of 45 hours established in October, 1930 by Thomas Batá in his shoe factories
 in Zlin, Czechoslovakia. See also New York Times, Oct. 5, 1930, sec. 3, p. 8.
- BROWN, A. J.
 The five-day week.
 Labour Magazine, September, 1930, v. 9, pp. 210, 211.
 Reviews the progress of the movement in Great Britain.
- CANADA. *Department of Labor.*
 Labour Gazette. (Monthly.)
 Consult index for news items regarding shorter work week proposals.
- CONDITIONS IN RUSSIA: THE SEVEN-HOUR DAY.
 Industrial and Labour Information, May 5, 1930, v. 34, pp. 160-162.
 Summary of a discussion on the results and prospects of the seven-hour day in industry at a confer-
 ence held under the auspices of the General Council of Trade Unions following upon an order of the
 Supreme Economic Council designed to speed up the introduction of the seven-hour day so that it
 will be enforced in all industries of the Soviet Union by October 1, 1932.
- CONDITIONS IN RUSSIA—THE UNINTERRUPTED WORKING WEEK.
 Industrial and Labour Information, Sept. 30, 1929, v. 31, pp. 442-444; Oct.
 28, 1929, v. 32, pp. 147, 148; Apr. 21, 1930, v. 34, pp. 93-95.
 Summaries of the terms of the decrees of Aug. 26 and Sept. 24, 1929 and supplementary regu-
 lations. These provide for the progressive introduction of continuous working in the different
 branches of State industry on the basis of a five-day week, comprising four workdays followed
 by one rest day.
- [DINSMORE, S. E.]
 Effect of the 5-day week.
 Labour Gazette (Canada), February, 1929, v. 29, p. 185.
 Brief account of meeting of the Canadian Construction Association at Hamilton, Ont., Jan-
 uary, 1929. Includes quotation from address of the president of the association opposing the
 five-day week.
- EXPERIMENT WITH THE WORK WEEK IN RUSSIA.
 Law and Labor, December, 1929, v. 11, pp. 261, 262.
- THE FIVE-DAY WEEK.
 Canadian Congress Journal, December, 1930, v. 9, No. 12, p. 22.
 Reprints editorial from Pulp and Paper Magazine of Canada suggesting that the five-day week
 may offer a partial solution for some of the conditions in the industry.
- FIVE-DAY WORKING WEEK IN RUSSIA.
 Ministry of Labour Gazette (Great Britain), October, 1929, p. 361.
- FIVE-DAY WEEK ADOPTED IN CZECH SHOE FACTORIES.
 United States Daily, Dec. 18, 1930, p. 2.
 Following the example set by Batá, the Popper, Busi and Munchengratzer shoe factories have
 announced their intention of adopting the five-day week of 45 hours.

FOENANDER, O. DE R.

Forty-four hours case in Australia, 1926-1927.

Quarterly Journal of Economics, February, 1928, v. 42, pp. 307-327.

FORTY-HOUR WEEK PROPOSED BY GERMAN TRADE-UNIONS.

Monthly Labor Review, December, 1930, v. 31, pp. 1458, 1459.

GREAT BRITAIN. *Factory Inspector's Office.*

Annual report of the chief inspector of factories and workshops for the years 1925-1929. London, 1926-1930.

1925: Five-day week, pp. 43, 44. Reprinted in Monthly Labor Review, November, 1926, v. 23, pp. 1054, 1055.

See also 1926, p. 48; 1927, p. 57; 1928, pp. 49, 50; 1929, pp. 52, 53 for additional firms adopting plan and their experience with it. In general comment on the five-day week is favorable and the plan has been continued wherever it has been seriously adopted.

— *Royal Commission on the Civil Service.*

Minutes of evidence, Pt. 1 (11th-15th Nov. 1929). London, 1929.

Preliminary statement submitted by the staff side of the National Whitley Council for the Administrative and Legal Departments includes recommendation for the adoption of the five-day week in the civil service. "The growing practice in other professions and in outside industry is to concentrate effort into five days, and evidence appears to indicate that this practice is justified enormously by results. It is considered that total output of work would not be prejudiced and might be increased, and that distinct economy in other ways would be secured by the adoption of the principle of a five-day week." (p. 77)

LEVERHULME, WILLIAM H. L. *baron.*

The six-hour day and other industrial questions. New York, H. Holt and Co. 1919. 344 pp.

First published in London, November, 1918. Reviewed by William F. Ogburn in Monthly Labor Review, April, 1919, v. 8, pp. 1114-1119.

See also abridged and rearranged edition with title "The six hour shift and industrial efficiency" (New York, H. Holt and Co., 1920) with introduction by Henry R. Seager.

ROBBINS, LIONEL.

The economic effects of variation of hours of labor.

Economic Journal, March, 1929, v. 39, pp. 25-40.

Paper read before Section F of the British Association for the Advancement of Science.

THE SEVEN-HOUR DAY IN RUSSIA.

Industrial and Labour Information, Nov. 28, 1927, v. 24, pp. 259, 260; Feb. 13, 1928, v. 25, pp. 229-235; May 21, 1928, v. 26, pp. 248-251; Dec. 3, 1928, v. 28, pp. 294-298; May 27, 1929, v. 30, pp. 268-271.

News notes relating to the gradual introduction of the seven-hour day in the Soviet Union in accordance with the decree issued October, 1927 on the occasion of the tenth anniversary of the revolution.

THE SEVEN-HOUR DAY IN SOVIET RUSSIA.

International Labour Review, September, 1930, v. 22, pp. 329-357.

An account of two years' experience in the application of the seven-hour day. Covers the history of the seven-hour day in Russia, working arrangements under the seven-hour day and the economic and social effects of the new system. See also International Labour Review, March-April, 1928, v. 17, pp. 377-389, 515-528 for earlier articles on "The problem of hours of work in the Soviet Union."

TRADES AND LABOUR CONGRESS OF CANADA.

Report of the proceedings of the 46th annual convention, Regina, Sept. 8-12, 1930. 1930. 220 pp.

Convention urged Federal legislation for the limitation of hours of work to not more than eight per day and 5 days per week on all Government works and contracts and all works toward which the Federal Government may grant aid as a measure of relief carried on by provincial governments or municipalities, pp. 104, 148-152.

See also discussion of 40-hour week in 1927 proceedings, pp. 101-103.

THE UNBROKEN WORKING WEEK [RUSSIA].

Soviet Union Review, October, 1929, v. 7, pp. 155-157.

WESTERN AUSTRALIA. *Court of Arbitration.*

Judgment of court on the 44-hour application. Delivered Sept. 8, 1926. Perth, 1926. 35 pp.

Includes arguments in support of 44-hour week.

PUBLICATIONS RELATING TO LABOR

Official—United States

CALIFORNIA.—Department of Industrial Relations. *Special bulletin No. 2: Middle-aged and older workers in California.* San Francisco, 1930. 98 pp.; charts.

Reviewed in this issue.

CLEVELAND.—Board of Education. Bureau of Educational Research. *Occupational information series No. 1: The metal industries in Cleveland.* Cleveland, 1929. 112 pp.

— — — — — *Occupational information series No. 3: The clothing industry in Cleveland.* Cleveland, 1929. 146 pp.

— — — — — *Occupational information series No. 4: Electrical manufacturing in Cleveland.* Cleveland, 1930. 132 pp.

— — — — — *Occupational information series, No. 5: Junior wage earners in Cleveland—a statistical study.* Cleveland, 1930. 70 pp. (Mimeographed.)

HAWAII.—Governor. *Annual report for fiscal year ended June 30, 1930.* Washington, D. C., Department of the Interior, 1930. 143 pp.

Contains data on labor and other industrial conditions.

MASSACHUSETTS.—Department of Labor and Industries. *Annual report on the statistics of labor for the year ending November 30, 1929. Part II: Time rates of wages and hours of labor in Massachusetts, 1929.* Boston, 1930. 122 pp. (Labor bulletin No. 158.)

Includes wage rates, not only for various occupations in manufacturing and the trades, but also in communication and public service.

NEW HAMPSHIRE.—Bureau of Labor. *Eighteenth biennial report, for the fiscal period ending June 30, 1930.* Concord, 1930. 102 pp.

Includes a table showing, by cause, the number of accidents which occurred in different industries.

NEW YORK.—Department of Labor. *Annual report of the Industrial Commissioner, for the twelve months ended December 31, 1929.* Albany, 1930. 205 pp. Legislative document (1930) No. 21.

Data from this report, relating to the cooperation of labor union leaders in safety work, are given in this issue.

— Superintendent of Banks. *Annual report, relative to savings and loan associations, land bank of the State of New York, and credit unions, for the year 1929.* Albany, 1930. 672 pp. Legislative document (1930) No. 25.

Report covers 309 savings and loan associations with resources of \$422,141,280, and 125 credit unions, with 70,598 members.

OREGON.—Bureau of Labor. *Fourteenth biennial report and industrial directory, October 1, 1928, to September 30, 1930.* Salem, 1930. 127 pp.

Contains among other data the number of males and females 18 years of age and over and under 18 years of age at specified wage rates in various industries for both 1928 and 1929.

PHILIPPINE ISLANDS.—Department of Commerce and Communications. Bureau of Labor. *The activities of the Bureau of Labor.* Manila, 1930. 177 pp., illus. (Bulletin No. 27, 1929.)

UNITED STATES.—Department of Commerce. Bureau of Foreign and Domestic Commerce. *Domestic commerce series No. 37: Commercial survey of the Pacific Southwest*, by C. R. Niklason. Washington, 1930. 647 pp.; charts, maps.

In this survey the basic activities of the Southwest have been studied as income sources. The density and distribution of the population, occupations, habits, and traditions of this section of the country have also been studied with a view to evaluating their relation to commodity markets. Among other subjects taken up are distribution and transportation problems and the peculiarities of the demands and requirements of consumers.

— Bureau of Mines. *Twentieth annual report, for the fiscal year ended June 30, 1930*. Washington, 1930. 54 pp.

The work of the health and safety branch of the bureau during the year included studies on carbon monoxide, refrigerants, warning agents for manufactured gas, toxic gases and vapors, causes of death among miners, incidence of silicosis and other diseases among miners, analysis of mine gases, approval of gas masks, and a survey of sanitary conditions in mining camps.

— Department of Labor. Bureau of Labor Statistics. *Bulletin No. 523: Wages and hours in the manufacture of airplanes and aircraft engines, 1929*. Washington, 1930. 53 pp.

Summary data covering this survey were published in the Labor Review for June, 1930 (p. 169).

— *Bulletin No. 529: Workmen's compensation legislation of the Latin American countries*. Washington, 1930. 307 pp.

A summary of this legislation appears in this issue.

— Federal Board for Vocational Education. *Fourteenth annual report, 1930*. Washington, 1930. 129 pp.; charts.

Reviewed in this issue.

— Federal Farm Board. *Bulletin No. 3: Farmers build their marketing machinery. The agricultural marketing act helps in developing cooperative program open to all growers*. Washington, 1930. 59 pp.; maps, diagrams.

A short description of the various national organizations set up under the agricultural marketing act.

— *First annual report, for the year ending June 30, 1930*. Washington, 1930. 76 pp.

— Government Printing Office. *Immigration, naturalization, citizenship, Chinese, Japanese, Negroes, and aliens. List of publications relating to above subjects for sale by Superintendent of Documents*. Washington, D. C., October, 1930. 14 pp. (Price list 67; 16th edition.)

— Interstate Commerce Commission. *Forty-fourth annual report*. Washington, 1930. 338 pp.; charts.

Includes data on railroad employment and on accidents to railroad employees and passengers.

— Treasury Department. Public Health Service. *Annual report for the fiscal year 1930*. Washington, 1930. 358 pp.

The report contains a statement of the activities of the office of industrial hygiene and sanitation during the year, which included studies of occupational health hazards and of industrial poisons and statistical studies relating to industrial hygiene.

Official—Foreign Countries

AMSTERDAM (NETHERLANDS).—Centrale Commissie voor de Werkliedenzaken (C. C. W.). *Verslag omtrent de bemoeiingen der Gemeente Amsterdam in arbeidszaken en de verzekering tegen werkloosheid, 1929*. [Amsterdam, 1930.] 184 pp.

A report on unemployment insurance in the city of Amsterdam, including information for municipal workers and employees.

AUSTRALIA.—Bureau of Census and Statistics. Tasmania Branch. *Statistics of the State of Tasmania for the year 1928-29*. Hobart, 1930. [Various paging.]

BREMEN (GERMANY).—Statistisches Landesamt. *Statistisches Jahrbuch der Freien Hansestadt Bremen, 1930*. Bremen, 1930. 296 pp.; map.

This statistical yearbook for the city of Bremen includes information on housing, cost of living, consumers' cooperation, social insurance, employment service, education, etc.

BULGARIA.—Direction Générale de la Statistique. *Statistique des coopératives dans le Royaume de Bulgarie en 1927*. Sofia, 1930. 81 pp.

Data cover 2,851 societies, of which 1,493 were credit societies, 271 were consumers', housing, and public utility societies, 226 were purchase and sale societies, 595 were insurance societies, 226 were workers' and productive organizations, and 40 were central organizations. The tables show year of establishment, size of societies, occupations of members, balance sheets, etc.

ESTONIA.—Ministère de l'Instruction Publique et des Affaires Sociales. *La protection du travail en Estonie en 1929. Résumé des rapports des inspecteurs du travail pour l'année 1929*. Tallinn, 1930. 50 pp.

The heads to the main tables are in Estonian and French. The résumé is in French.

FRANCE.—Ministère du Travail et de la Prévoyance Sociale. *Recueil de documents sur les accidents du travail, 1927*. Paris, 1930. 40 pp.

The annual report of the French Ministry of Labor for the year 1927 upon the financial situation of insurance societies registered under the law of April 9, 1898, relative to industrial accidents, and upon the operation of the guaranty funds.

GREAT BRITAIN.—Colonial Office. *Palestine: Report on immigration, land settlement and development, 1930*, by Sir John Hope Simpson. London, 1930. 185 pp.; charts. (Cmd. 3686.)

An account of the Jewish cooperative movement in Palestine, taken from this report, is given in this issue.

— Industrial Health Research Board. *Report No. 60: The atmospheric conditions in pithead baths*, by H. M. Vernon and T. Bedford. London, 1930. 29 pp.

This report is based on the experience obtained from the installation of baths for miners in four locations. The experience gained in these experimental installations has been applied in the 42 other installations which were being erected at the time the report was made. The report deals only with the atmospheric conditions of the bathhouses and the type of heating and ventilation used.

— Registry of Friendly Societies. *Report for the year 1930. Part 5: Building societies; Section II, Directory and summaries*. London, 1930. 77 pp.

Gives names and addresses of the different societies, with a summary for each society of number of investors, borrowers, and depositors, assets and liabilities, and other relevant data.

INTERNATIONAL LABOR OFFICE.—*The age of admission of children to employment in nonindustrial occupations*. (Item II on agenda of International Labor Conference, 15th session, Geneva, 1931, 1st discussion.) Geneva, 1931. 130 pp.

A report prepared as a basis for the first discussion of the subject at the 1931 session of the conference. The first part deals with the present practice of different countries, the second gives a summary of the legislation of the various States which are members of the conference, classified, as far as possible by content, and in the third part some conclusions are drawn and points are defined for future investigation and study.

NEW SOUTH WALES (AUSTRALIA).—Bureau of Statistics. *Statistical register for 1928-29*. Sydney, 1930. 685 pp.

SEINE (FRANCE).—Service de la Statistique Municipale. *Annuaire statistique de la ville de Paris, 1925 et 1926. Paris, 1930. 863 pp.*

The statistical yearbook of Paris for the years 1925 and 1926. Contains statistical tables relating to housing, insurance, education, and retail and wholesale prices.

UKRAINE (U. S. S. R.).—State Institute of Industrial Diseases. *Investigation of lead poisoning. Kharkov, 1926. 190 pp. (In Ukrainian.)*

A collection of reports on the results of investigations of industrial lead poisoning by various specialists.

— State Institute of Industrial Pathology and Hygiene. *Dust and dust pathology. Kharkov, 1930. 292 pp. (In Russian.)*

Contains results of investigations of dust and dust pathology in industry.

UNION OF SOUTH AFRICA.—Office of Census and Statistics. *Fourth census of the population of the Union of South Africa, enumerated May 4, 1926. Part XI. Occupations (Europeans). Pretoria, 1930. 221 pp.*

Unofficial

AMERICAN ACADEMY OF POLITICAL AND SOCIAL SCIENCE. *The Annals, Vol. 152: China. Philadelphia, November, 1930. 431 pp.; maps, illus.*

A collection of articles on China's background, the social conditions and the industrial and commercial development of the country, and its internal politics and government. There are also papers on Manchuria, Mongolia, and Chinese Turkestan, and 5 other contributions under the heading "China among the Nations."

ANTONELLI, ETIENNE. *Guide pratique des assurances sociales. Paris, Payot, 1930. 169 pp.*

A commentary on the French social insurance law of April 5, 1928, amended by the law of April 30, 1930, by the reporter of the law in the Chamber of Deputies.

BOUNIATIAN, MENTOR. *Les crises économiques. Paris, Marcel Giard, 1930. xviii, 430 pp.*

This is a second edition of a work on economic crises. The writer discusses the forms under which economic crises appear, their causes, and the causes and results of overcapitalization.

CALKINS, CLINCH. *Some folks won't work. New York, Harcourt, Brace & Co., 1930. 202 pp.*

A study of the effects of unemployment upon the family. Based on over 300 case histories in 30 cities.

CARR, A. S. COMYNS. *Escape from the "dole." London, Faber & Faber, 1930. 38 pp. (Criterion Miscellany, No. 19.)*

The author proposes that the Government should offer to make an agreement with any firm meeting certain conditions as to efficient management, good equipment, fair wages, and the like, by which it would guarantee to pay out of the unemployment insurance fund "the loss (if any) up to a fixed limit, which may result from the firm either undertaking a specific contract or working to full capacity with a full staff for a specific period in some or all of its factories or departments, if it has more than one." He presents various arguments for holding that the usual objections to Governmental subsidies in aid of wages would not apply to this plan, and holds that the fund would be serving its real purpose far better in this way than by merely furnishing limited payments to the unemployed.

CLEVELAND RAILWAY CO., AND METROPOLITAN LIFE INSURANCE CO., POLICY-HOLDERS SERVICE BUREAU. *The accident-prone employee. New York, Metropolitan Life Insurance Co., [1929?]. 26 pp.; charts, illus.*

A study of the accident experience and the accident-prevention work of the Cleveland Railway Co.

EINHEITSVERBAND DER EISENBAHNER DEUTSCHLANDS. *Jahrbuch, 1929. Berlin, 1930. 190 pp.*

Contains information in regard to the railway business and conditions in Germany during 1929, including legislation, social insurance, labor protection, labor unions, etc.

GENERAL FEDERATION OF JEWISH LABOR IN PALESTINE. Executive Committee. *Documents and essays on Jewish labor policy. Tel-Aviv, "Achduth," Printing Cooperative, 1930. 239 pp.*

GUNTHER, E. *Sozialpolitik. Berlin, Spaeth & Linde, 1930. 186 pp.*

A treatise on what the Germans call social policy, dealing with the meaning of this term in the past and present and with its practices, including labor protection, hours of labor, social insurance, labor legislation, etc.

INSTITUTE OF INTERNATIONAL RELATIONS. *Proceedings of the fifth session, Riverside, Calif., December 8 to 13, 1929. Los Angeles, University of Southern California, 1930. 252 pp.*

Among the subjects discussed at these sessions were: Economic disarmament, the international codification of the law of labor, and labor and international policies.

MARCH, LUCIEN. *Les principes de la méthode statistique. Paris, Felix Alcan, 1930. 807 pp.; diagrams.*

A review of statistical methods, with examples of some applications of the methods outlined to the natural sciences and to business affairs.

METROPOLITAN LIFE INSURANCE CO. Policyholders Service Bureau. *Cooperative marketing activities in business—a report on special forms of cooperation undertaken by independent business enterprises outside the scope of regular trade association activities. New York [1930?]. 30 pp.*

MINNESOTA, UNIVERSITY OF. Department of Psychology. *Minnesota mechanical ability tests. Minneapolis, 1930. 586 pp.; charts, illus.*

The report of a research investigation subsidized by the committee on human migrations of the National Research Council.

MOUTTÉ, FRÉDÉRIC. *La question de l'organisation internationale de l'industrie charbonnière. Paris, Jouve & Cie., 1929. 360 pp.*

This study of the coal industry covers general conditions of the industry, wages, and working conditions before and after the war; the world crisis in the coal industry; the solutions of the problems proposed in the different countries; the economic work of the League of Nations and the international industrial agreements; and the preliminary steps taken toward international organization of the industry.

MURCHISON, CLAUDIUS T. *King Cotton is sick. Chapel Hill, University of North Carolina Press, 1930. 187 pp.; charts.*

An analysis of the difficulties of the cotton-manufacturing industry, with proposals for solution.

NANKING, UNIVERSITY OF. *Chinese farm economy: A study of 2,866 farms in seventeen localities and seven Provinces in China, by John Lossing Buck. Chicago, University of Chicago Press, 1930. 476 pp.; map, charts, illus.*

This volume brings together the findings of an investigation into the rural economy of China, made under the direction of the professor of farm management, College of Agriculture and Forestry of the University of Nanking. The study was undertaken not only to furnish data for Chinese students concerning some aspects of the agriculture of their own country but to add to the accurate knowledge about China for the benefit of the internationally minded.

NATIONAL INDUSTRIAL CONFERENCE BOARD (INC.). *A picture of world economic conditions in the early fall of 1930. New York, 247 Park Avenue, 1930. 251 pp.*

NEW YORK BUILDING CONGRESS. Seasonal Operations Committee. *Seasonal employment in the building trades: Analysis and recommendations.* New York, 101 Park Avenue, 1930. 9 pp.; charts.

PASVOLSKY, LEO. *Bulgaria's economic position, with special reference to the reparation problem and the work of the League of Nations.* Washington, D. C., Brookings Institution, 1930. 409 pp.; maps, diagrams.

PRESIDENT'S CONFERENCE ON UNEMPLOYMENT. Committee on Recent Economic Changes. *Planning and control of public works.* New York, National Bureau of Economic Research (Inc.) (Publication No. 17), 1930. 260 pp.

PRINCETON UNIVERSITY. Industrial Relations Section. *Memorandum: Company plans for the regularization of plant operation and employment.* Princeton, N. J., October, 1930. 16 pp. (Mimeographed.)

—— Selected bibliography: *Industrial plans for the regularization of employment.* Princeton, January 2, 1931. 6 pp. (Mimeographed.)

RUSSELL SAGE FOUNDATION. *Community planning in unemployment emergencies: Recommendations growing out of experience, compiled by Joanna C. Colcord.* New York, 1930. 86 pp.

Reviewed in this issue.

RYAN, FRANKLIN W. *Family finance in the United States.* (Reprinted from *Journal of Business of the University of Chicago*, October, 1930, pp. 402-423.)

Deals with personal finance companies.

SCELLE, GEORGES. *L'Organisation Internationale du Travail et le B. I. T.* Paris, Marcel Rivière, 1930. xvi, 333 pp.

A study of the organization of the International Labor Office and of the work of the office during the 10 years since it was established.

SCHOOF, DR. F. *Hygiène et toxicologie industrielles.* Liege, Georges Thone, 1930. 271 pp.

A manual of industrial poisons and diseases, covering the effects of heat, humidity, dusts and fumes, and the various occupational diseases as well as harmful substances used in industry.

SERWY, VICTOR. *La situation de la coopération socialiste de consommation Belge, 1913, 1928, 1929.* Huy, Imprimerie Coopérative, 1930. 12 pp.

Certain data from this report are given in this issue.

VALLÉE, ALINE. *Le consentement dans le contrat de travail.* Paris, Rousseau & Cie, 1930. 268 pp.

A study of the principle of assent, or agreement, in labor contracts.

VILLEY, PIERRE. *The world of the blind (a psychological study).* Translated by Alys Hallard. New York, MacMillan Co., 1930. 403 pp.

This volume was awarded a prize by the French Academy of Moral Science. The author, blind from earliest childhood, in the final chapter declares that the object of all endeavors to aid the sightless, both in regard to patronage and reorganized teaching, "should be to help the greatest possible number of blind persons to be self-sufficing, thanks to their own work."

WASNAIR, ÉMILE. *Histoire ouvrière et paysanne de Belgique.* Brussels, L'Églantine, 1930. 145 pp.

A history of the labor and peasant classes in Belgium from antiquity down to the present time.

